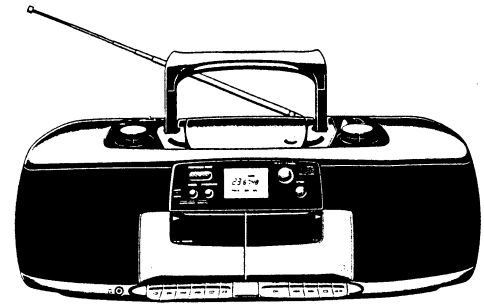
4775

CD Stereo Radio Recorder AZ8340/00/01/05/17

Service
Service
Service



Service Manual

COMPACT disc DIGITAL AUDIO

CONTENTS **PAGES**

Safety Instruction 1
Connections and Controls 2
Specification 2
Service Hints 2
Disassembly Diagram 3
Block Diagram 4
Wiring Diagram 5
Control broad ..... Circuit diagram 6
Layout diagram 6
Radio Alignment 7
Tuner Broad (/00/05) ..... Circuit diagram 8
Layout diagram 8
Tuner Broad (/01/17) ..... Circuit diagram 9
Layout diagram 9
CD Board Diagram 10
CD Service Mode 10
CD 1 Board ..... Circuit diagram 11
Layout diagram 12
CD Alignment 12
Combi Board ..... Circuit diagram 13
Layout diagram 14
Tape Alignment 14
IC Specifications 15
Exploded View Diagram ..... Tape deck 15
Cabinet 16
Electrical Partslist 17–20
Annex
Service Manual RCD1.2

CLASS 1
LASER PRODUCT
3122 110 03420

Published by Consumer Electronics Printed in The Netherlands

Copyright reserved Subject to modification

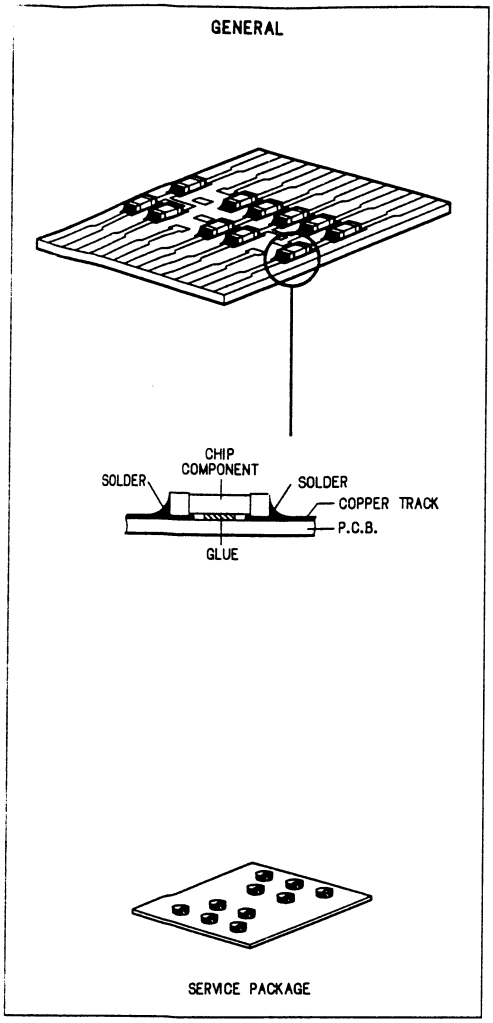
4822 725 24572

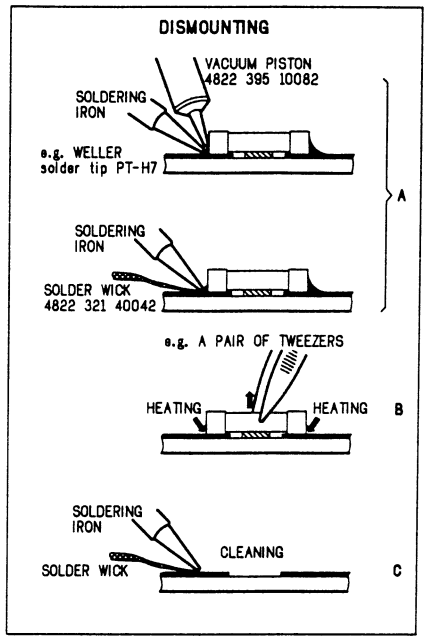
PHILIPS

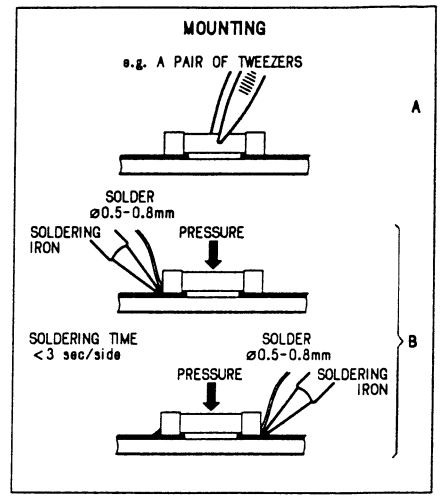
PCS 73 131

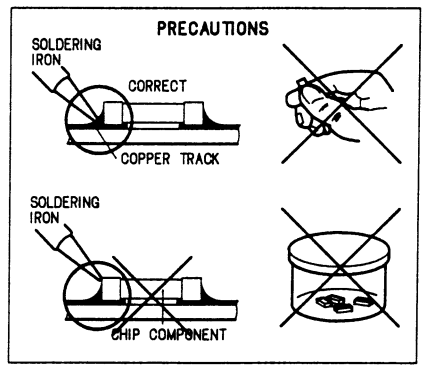
4775

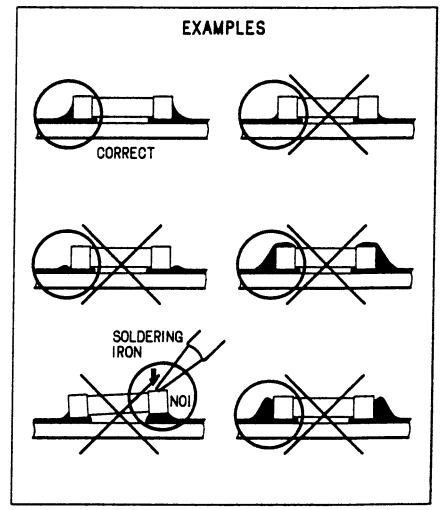
HANDLING CHIP COMPONENTS











ESD

(GB) WARNING

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools at this potential.

(F) ATTENTION

Tous les IC et beaucoup d´autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu´aucune précaution n'est prise à leur manipulation.
Lors de réparations, s´assurer de bien être relié au même potentiel que la masse de l´appareil et enfileer le bracelet serti d´une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l´on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, daß sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(NL) WAARSCHUWING

Alle IC´s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(I)
Le norme di sicurezza estigono che l´apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.

(F)
Les normes de sécurité exigent que l´appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !

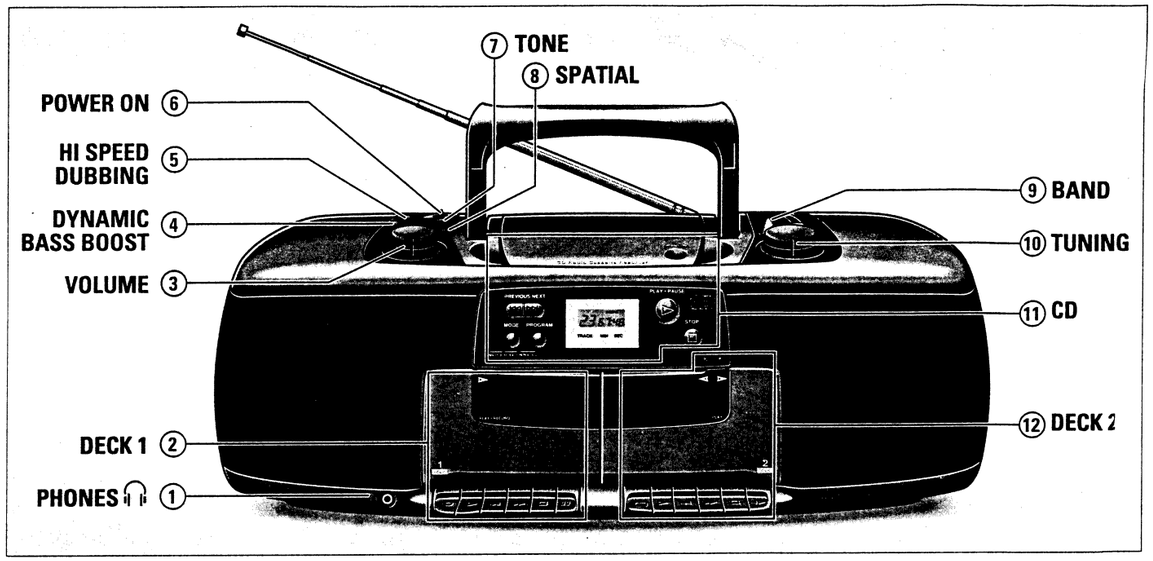
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undga udsaettelse for straling.

(SF) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymattomälle laserisäteilylle. Älä katso säteeseen !

(F)
"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

CONNECTIONS AND CONTROLS



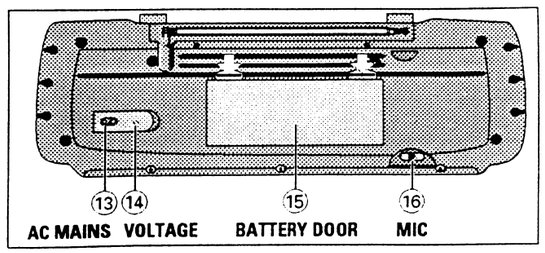
TOP AND FRONT PANEL

1. **PHONES** stereo headphone socket
2. **CASSETTE DECK 1** keyboard
3. **VOLUME** control
4. **DYNAMIC BASS BOOST** button
5. **HIGH SPEED DUBBING** button
6. **POWER ON** switch, to select
   - **TAPE/OFF**
   - **RADIO**
   - **CD**
7. **TONE** control (AZ8440 only)
8. **SPATIAL** button - (AZ8440 only) to obtain spatial sound effect.
9. **BAND** selector
10. **TUNING** control
11. **CD Display & Controls**
    ⏮ PREVIOUS/NEXT ⏭
    - in position playback or **STOP**, press briefly to jump to a previous or next track
    - during playback, keep pressed to search fast backward or forward

    PROGRAM - press briefly to programme the displayed track number
    - press longer than 1 second to display all stored tracks numbers

    MODE - press so many times until the required mode appears in the display
    - **SHUFFLE** play all tracks in a random order
    - **SHUFFLE REPEAT** continuously repeat the CD in the SHUFFLE mode
    - **REPEAT ALL** (PROGRAM) continuously repeat the CD (or the stored selection - PROGRAM)
    - **REPEAT 1** continuously repeat 1 title

    DISPLAY
    OPEN/CLOSE to open the CD door
    PLAY/PAUSE ▶ - to start and interrupt playback
    STOP ■ - to stop playback
12. **CASSETTE DECK 2** keyboard



BACK PANEL

13. **AC Mains** socket
14. **VOLTAGE** selector (for -/01 only)
15. **BATTERY DOOR**
16. **MIC** socket for external microphone

SPECIFICATIONS

GENERAL

Mains voltage	-/00	:	230V
	-/01	:	120/230V
	-/05	:	240V
	-/17	:	120V
Mains frequency	-/00/05	:	50Hz
	-/01	:	50/60Hz
	-/17	:	60Hz
Battery		:	9V (R20 x 6)
Power Consumption		:	35W
Dimension (W x H x D)		:	560 x 187 x 215mm
Weight		:	4.4Kg

AMPLIFIER

Output power	mains	:	2 x 2.2 W
	battery	:	2 x 2.2 W
Speaker impedance		:	2 x 4 ohm
Frequency response		:	100Hz - 8kHz (-3dB)
DBB	at 100Hz	:	+8 ± 2dB

AUDIO/CASSETTE

Tape speed		:	4.76 cm/s ± 3%
Wow & flutter		:	< 0.5% WTD DIN
Fast-wind time (C60)		:	< 130 sec.
Frequency response	P/B	:	250 - 6,300Hz (± 6dB)
High speed dubbing		:	125 - 5,000Hz
S/N ratio		:	> 40dB
H.S. dubbing		:	> 30dB
Erase ratio		:	50dB (w/BPF)
Bias frequency		:	60 ± 10 kHz

COMPACT DISC

Frequency response	±3dB	:	30Hz - 16kHz
Signal/hiss ratio		:	> 80dB
Distorton	at 1kHz	:	< 0.3%
Channel difference	at 1kHz	:	< 2dB
Channel crosstalk	at 1kHz	:	> 50dB
Laser wavelength		:	780 ± 20nm
Laser light power		:	< 0.3mW

TUNER - FM section

Tuning range		:	87.5 - 108 MHz
IF frequency		:	10.7 MHz
Sensitivity		:	< 22 dBf at 26dB S/N
Selectivity		:	> 20 dB at 600kHz B.W.
IF rejection		:	> 50 dB
Image rejection		:	> 20 dB
AM suppression		:	> 30 dB
Stereo seperation	1 kHz	:	> 20 dB

TUNER - AM section (LW for -/00/05 only)

Tuning range	MW	:	525 - 1606.5 kHz
	-/17	:	530 - 1710 kHz
	LW	:	148.5 - 283.5 kHz
IF frequency		:	468 ± 3 kHz
Sensitivity	MW	:	< 4000 µV/m 26dB S/N
	LW	:	< 6000 µV/m
Selectivity	MW	:	> 16 dB
	LW	:	> 20 dB
IF rejection	MW	:	> 24 dB
	LW	:	> 27 dB
Image rejection	MW	:	> 28 dB
	LW	:	> 30 dB

SERVICE AIDS

Screw drivers :

Torx driver set T6 - T20	4822 395 50145
Torx driver T8	4822 395 50263
Torx driver T10 extended	4822 395 50423

Cassettes :

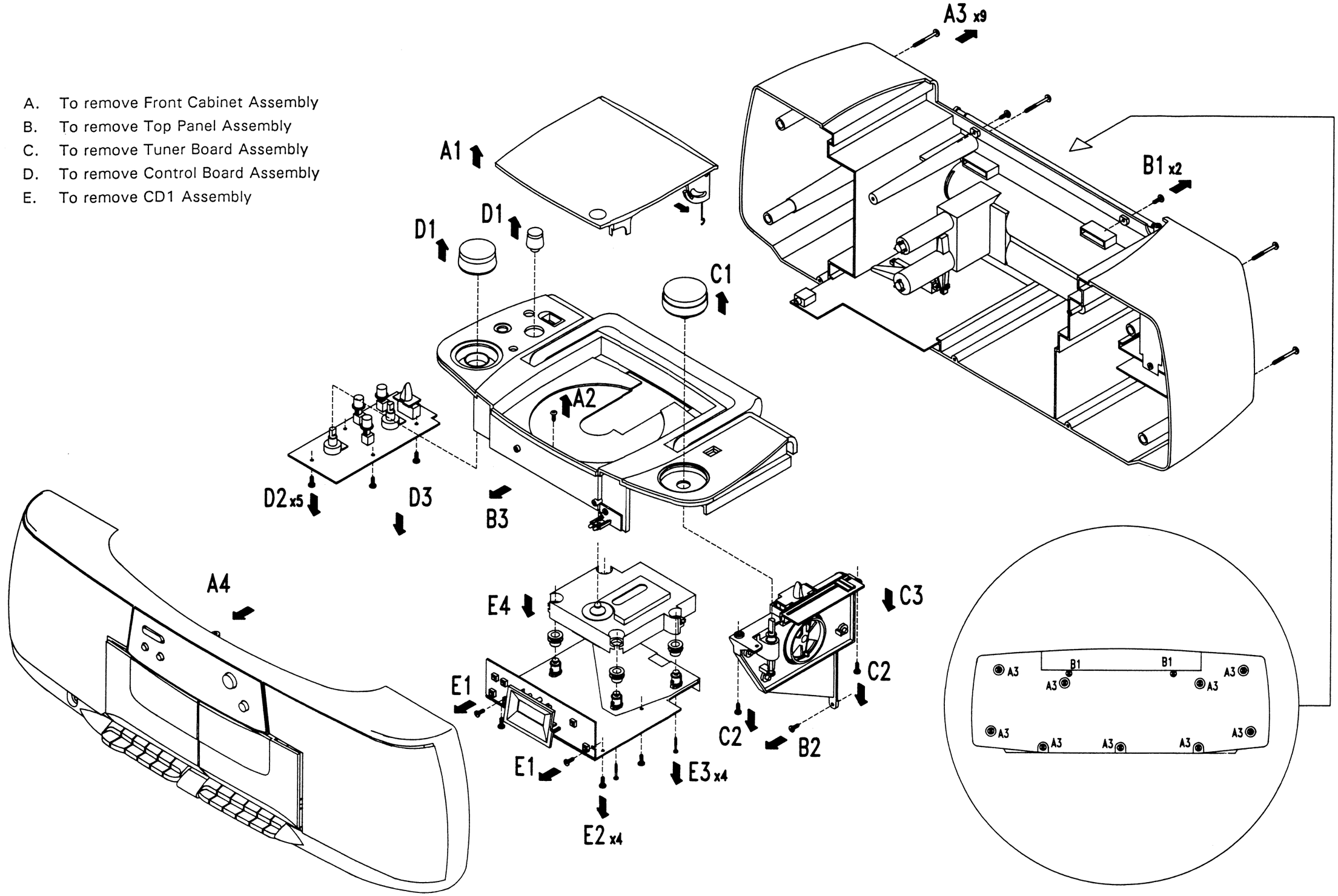
SBC 420 Test cassette Ferro	4822 397 30071

Compact disc :

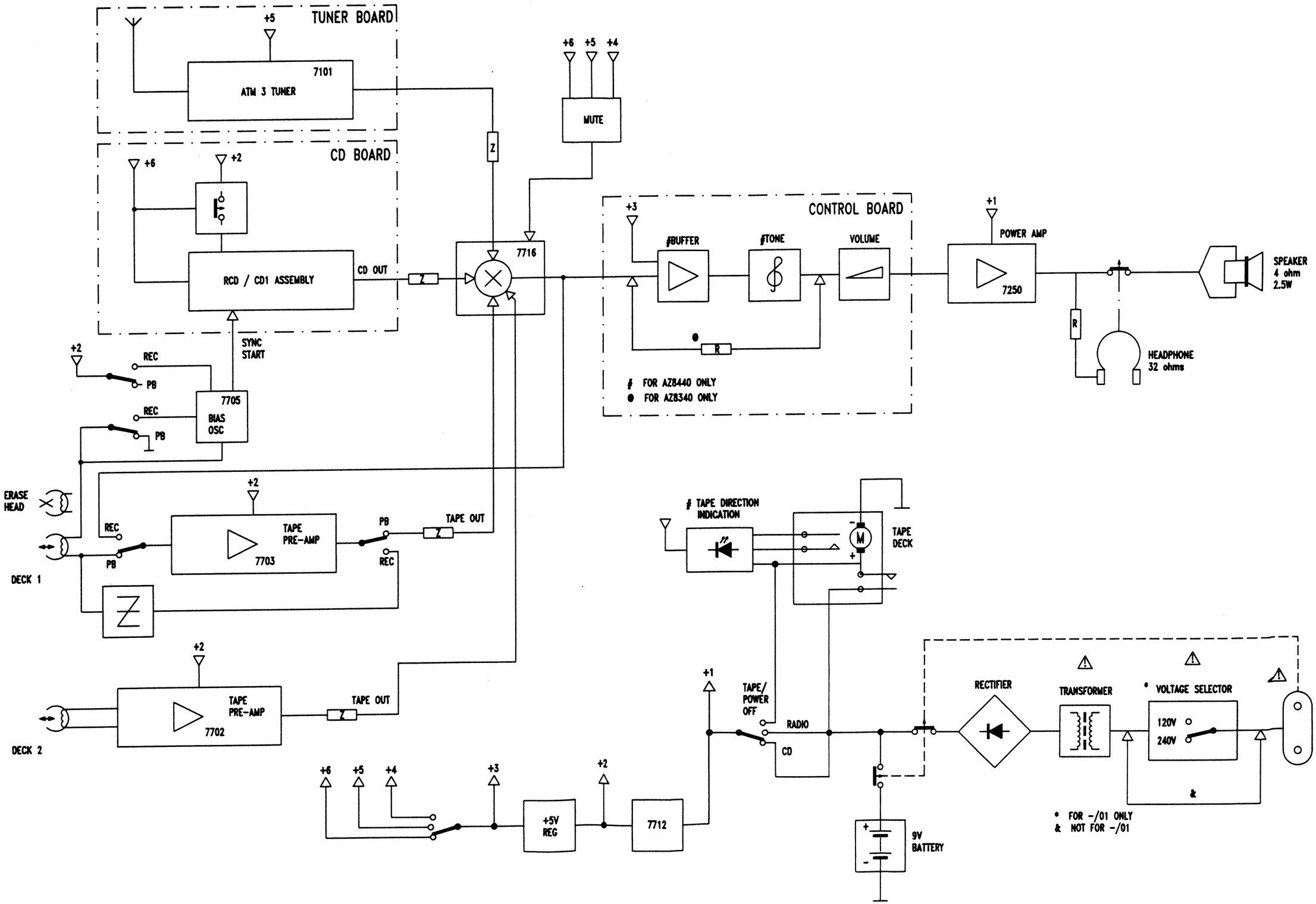
SBC 429 audio signal disc 1	4822 397 30184

DISASSEMBLY DIAGRAM

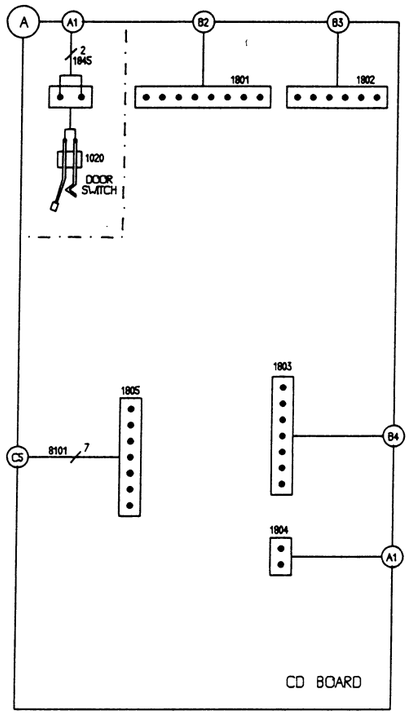
A. To remove Front Cabinet Assembly
B. To remove Top Panel Assembly
C. To remove Tuner Board Assembly
D. To remove Control Board Assembly
E. To remove CD1 Assembly

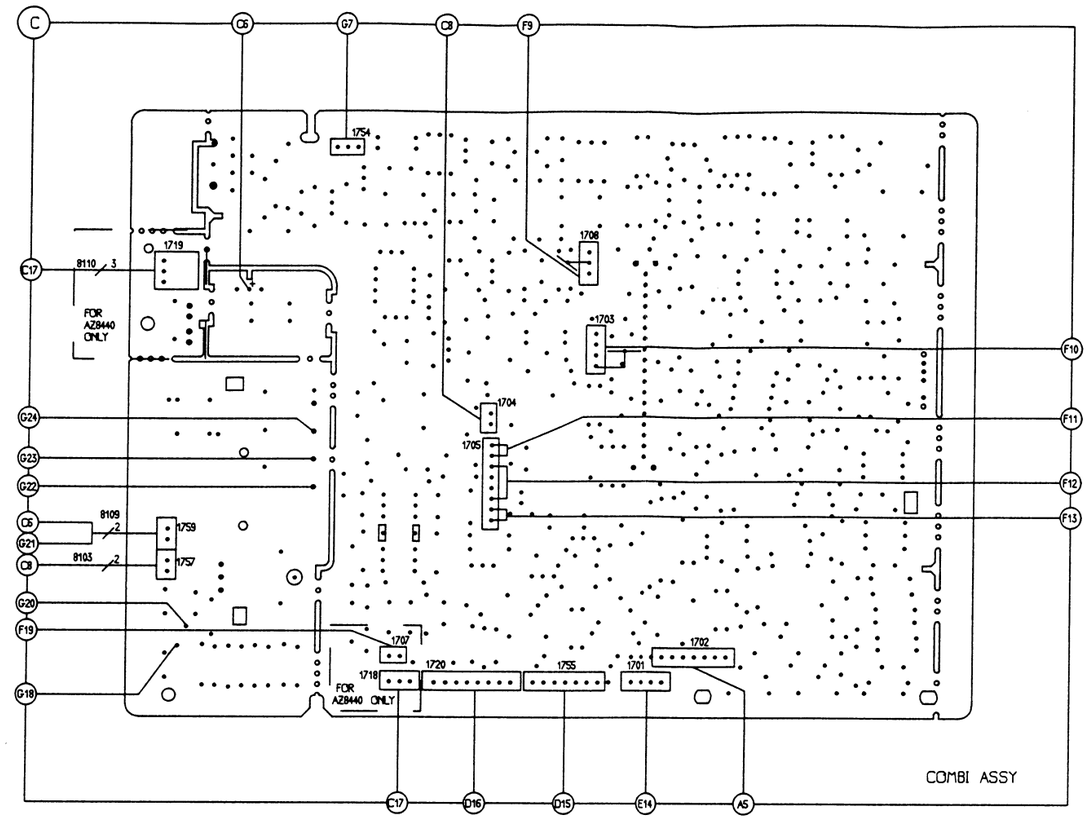


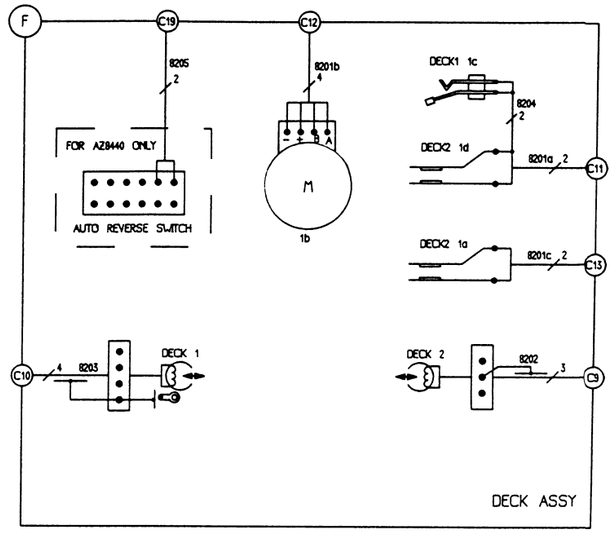
BLOCK DIAGRAM

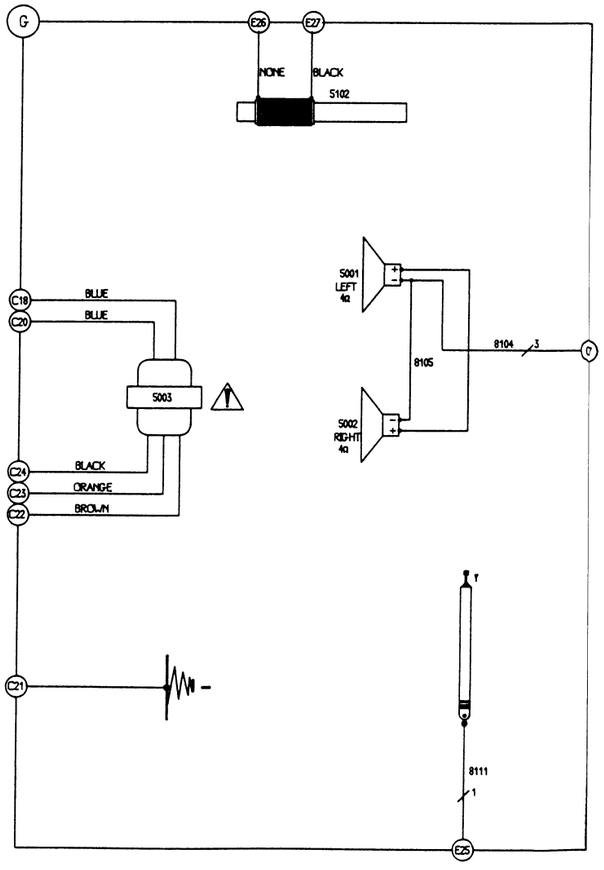


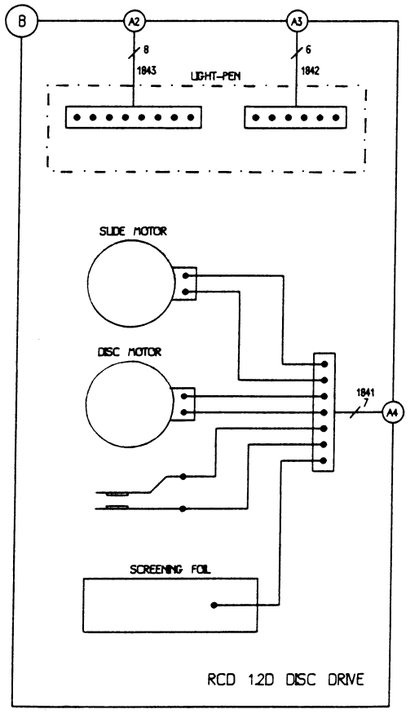
WIRING DIAGRAM

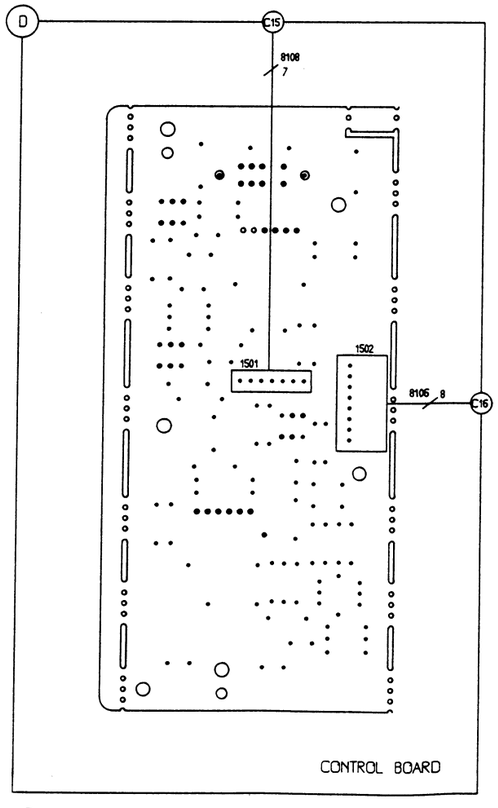


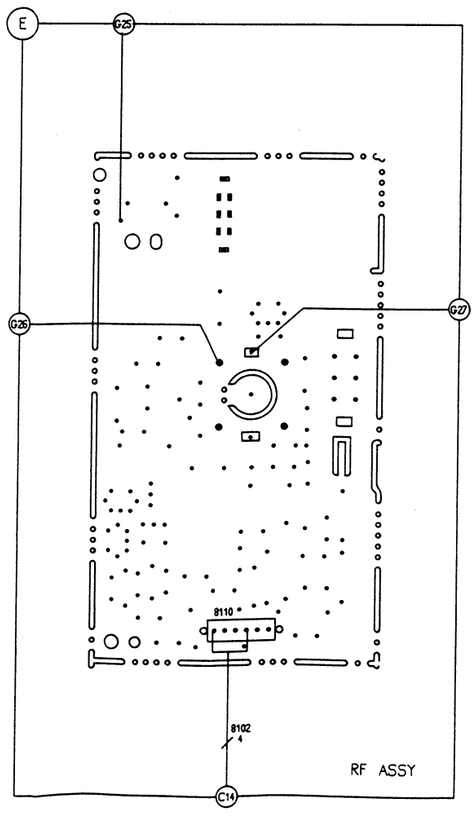






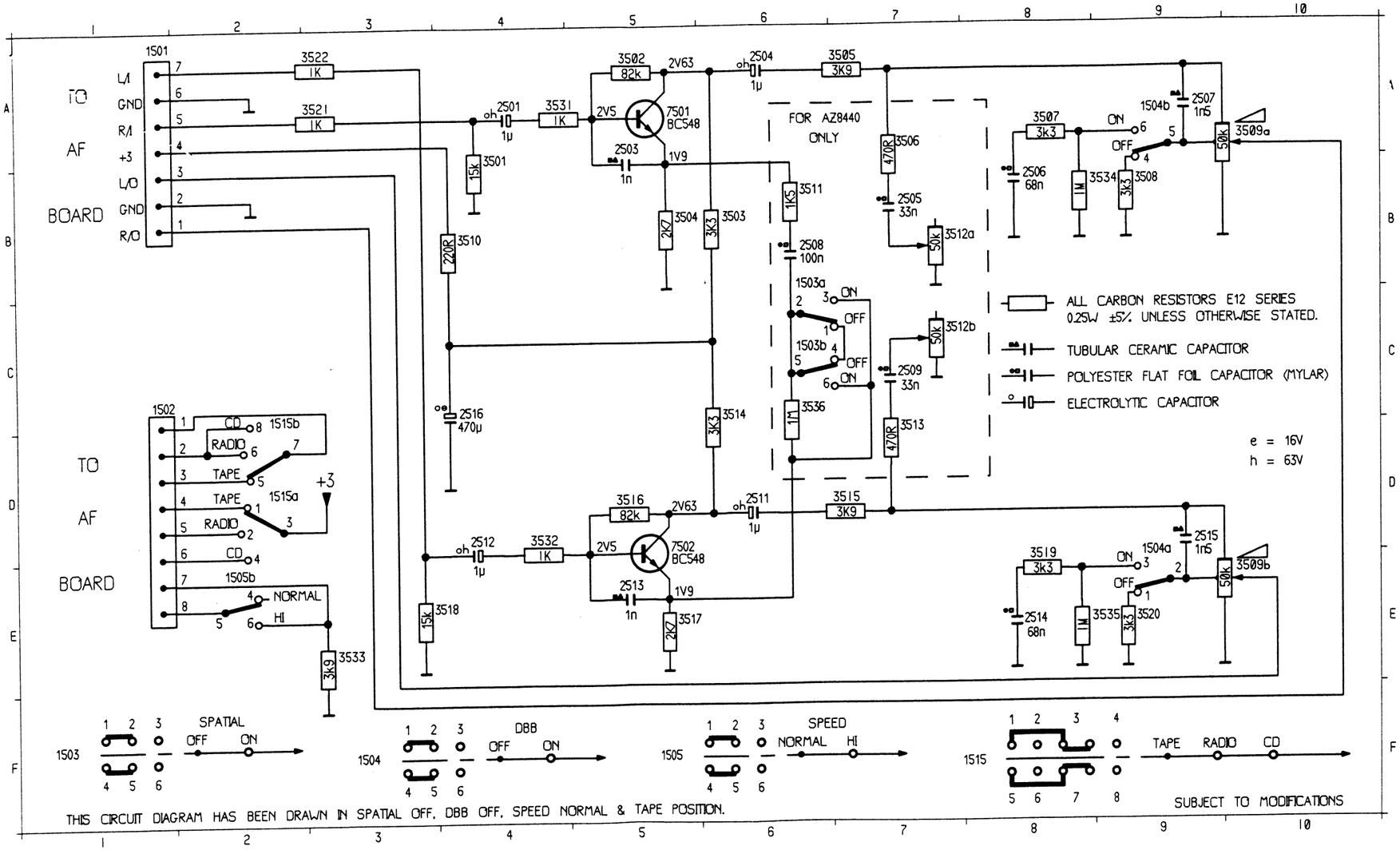




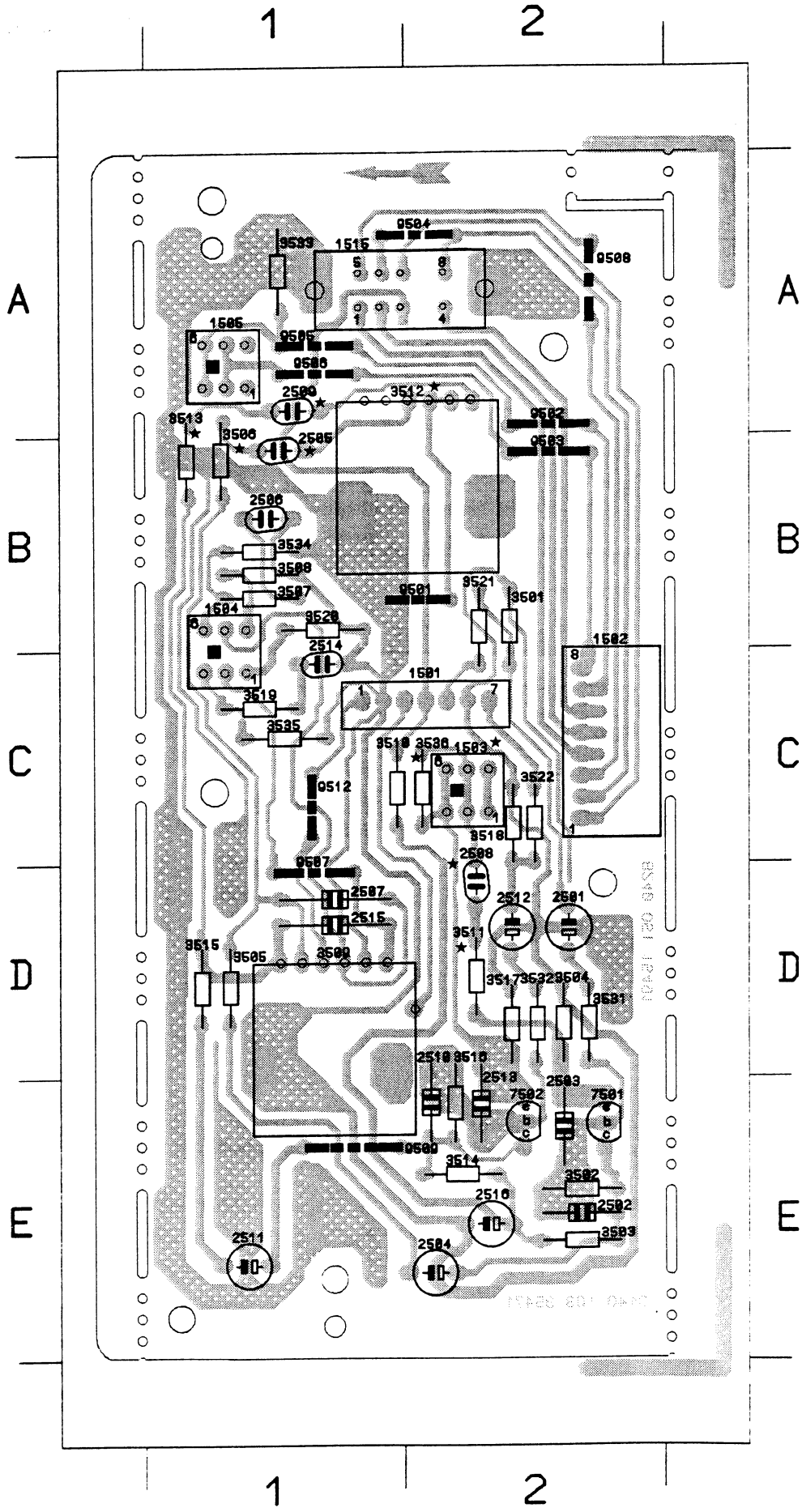


CONTROL BOARD - CIRCUIT DIAGRAM

1501	A 1	1504a	E 9	1515b	C 2	2505	B 7	2509	C 7	2514	E 8	3502	A 5	3506	A 7	3509b	E10	3512b	C 7	3516	D 5	3520	E 9	3532	D 4	3536	C 6
1502	C 1	1504b	A 9	2501	A 4	2506	B 8	2511	D 6	2515	D 9	3503	B 6	3507	A 8	3510	B 4	3513	D 7	3517	E 5	3521	A 3	3533	E 3	7501	A 5
1503a	B 6	1505b	E 2	2503	A 5	2507	A 9	2512	D 4	2516	C 4	3504	B 5	3508	B 9	3511	B 6	3514	C 6	3518	E 4	3522	A 3	3534	B 9	7502	D 5
1503b	C 6	1515a	D 2	2504	A 6	2508	B 6	2513	E 5	3501	B 4	3505	A 7	3509a	A10	3512a	B 7	3515	D 7	3519	E 8	3531	A 4	3535	E 9		



CONTROL BOARD - COMPONENT LAYOUT



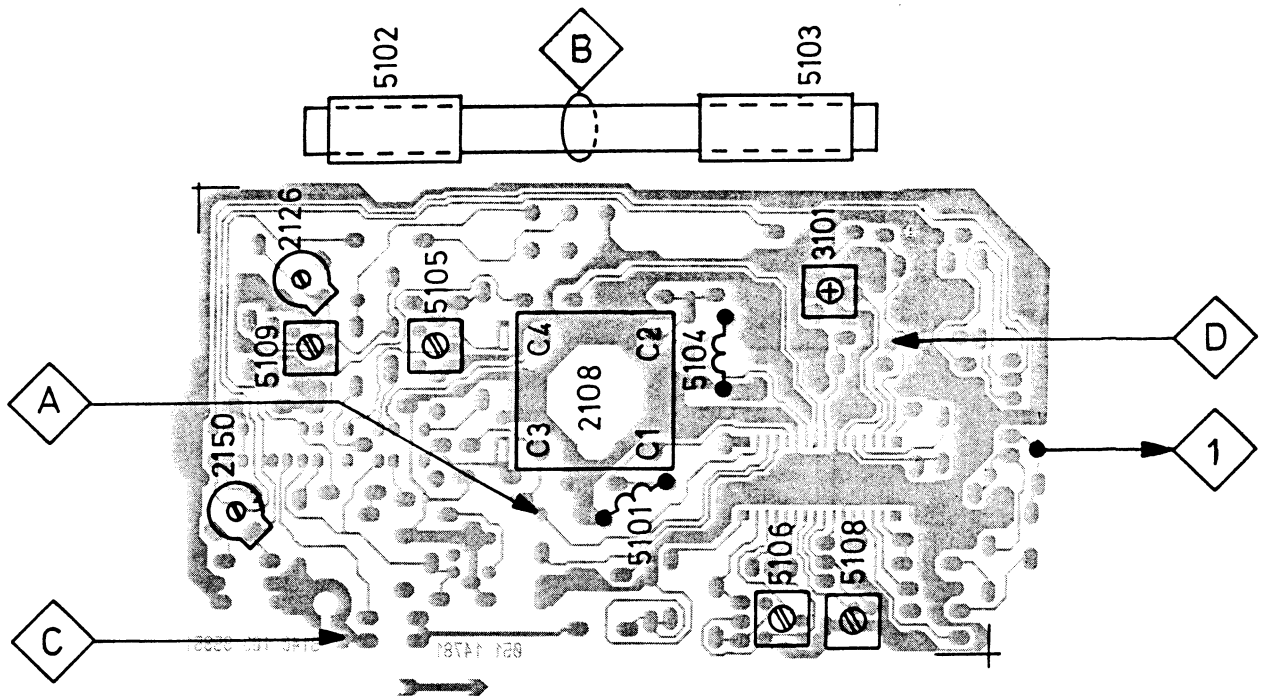
RADIO ALIGNMENT

SK....	FREQUENCY	I/P	VARICON	ADJUST	O/P	SCOPE/METER
AM IF						
AM or MW	468 kHz	◇A	Min.	5106 5108	◇1	↕ Max
AM RF						
MW * for –/00/01/05 (see Fig. 3)	512 kHz 1635 kHz	◇B	Max. Min.	5105 C4	H/P Jack	↕ Max
	550 kHz 1500 kHz		550 kHz 1500 kHz	L2 C3		↕ Max
AM * for –/17 (see Fig. 3)	520 kHz 1730 kHz	◇B	Max. Min.	5105 C4	H/P Jack	↕ Max
	550 kHz 1500 kHz		550 kHz 1500 kHz	L2 C3		↕ Max
LW * for –/00/05 (see Fig. 3)	147 kHz 291 kHz	◇B	Max. Min.	5109 2126	H/P Jack	↕ Max
	155 kHz 270 kHz		155 kHz 270 kHz	5103 2150		↕ Max
FM IF						
FM #	10.7 MHz					Symmetrical
FM RF						
FM# (see Fig. 4 & 5)	87.35 MHz 108.25 MHz	◇C	Max. Min.	5104 C2	H/P Jack	↕ Max
	88 MHz 106 MHz		88 MHz 106 MHz	5101 C1		↕ Max
FM# for –/14 (see Fig. 4 & 5)	64.7 MHz 108.25 MHz	◇C	Max. Min.	5104 C2	H/P Jack	↕ Max
	68 MHz 106 MHz		68 MHz 106 MHz	5101 C1		↕ Max
STEREO DECODER						
FM#	98 MHz	◇C	98 MHz	3101	◇D	↕ 152 ± 1 kHz ↕ Repeat

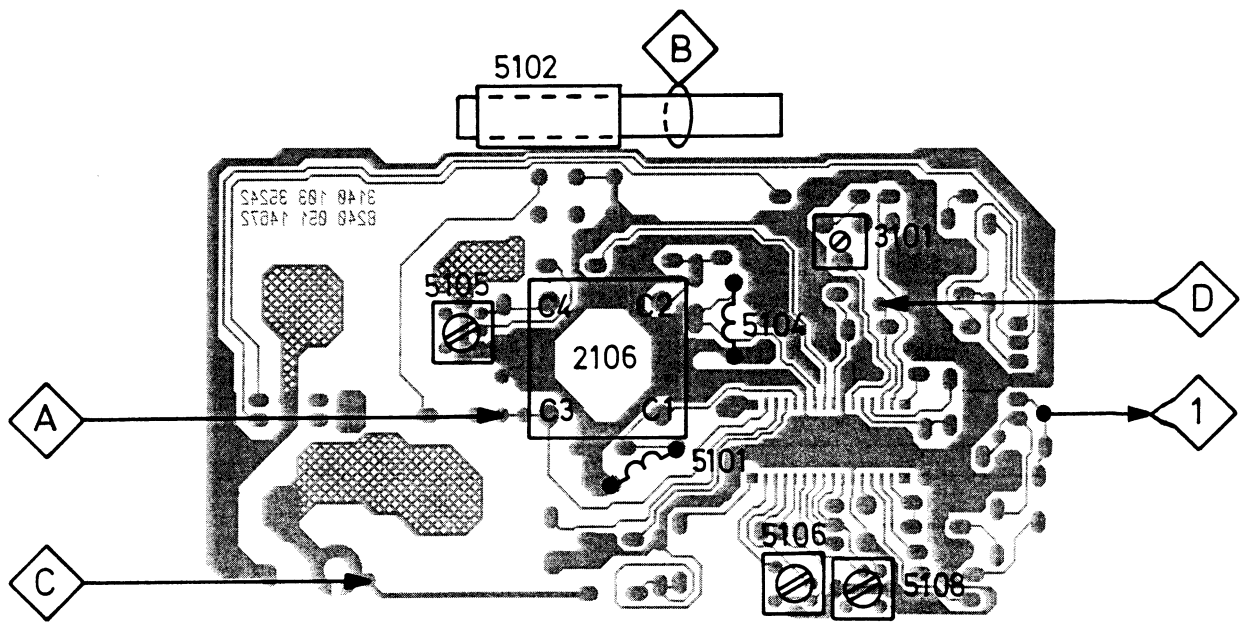
* Mod. 1 kHz 30%
\# via 10 nF + 15 E

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen".

ALIGNMENT LOCATION (-/00/05)



ALIGNMENT LOCATION (-/01/17)



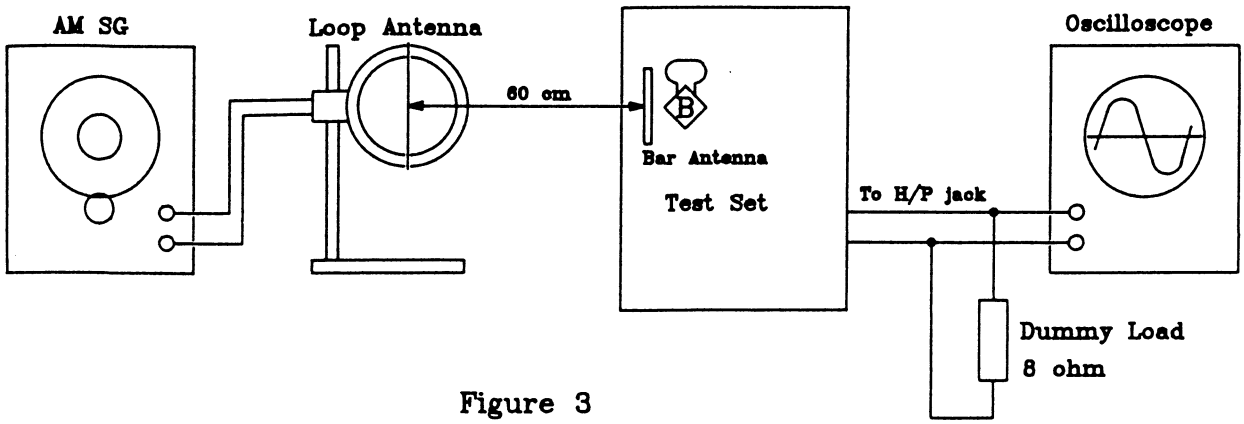


Figure 3

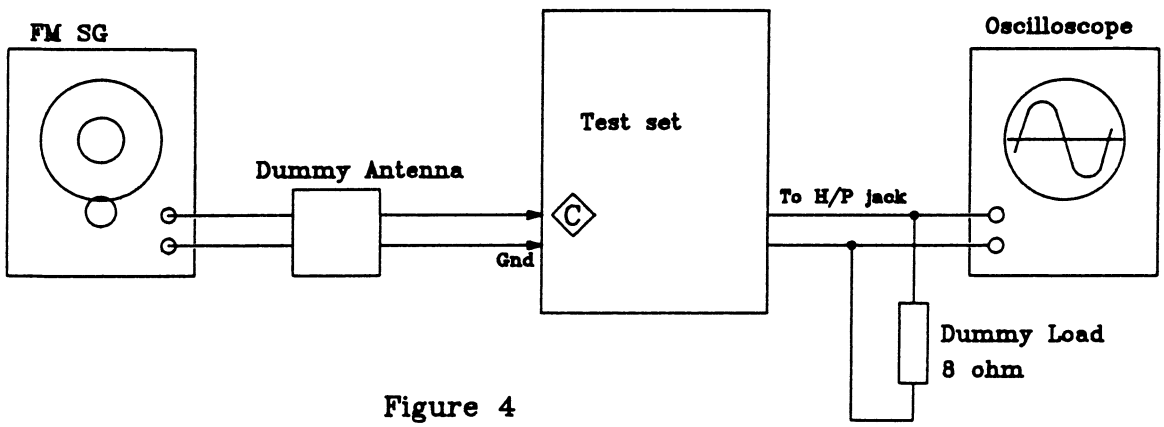


Figure 4

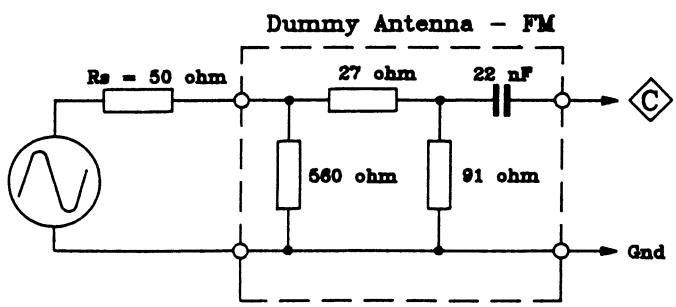
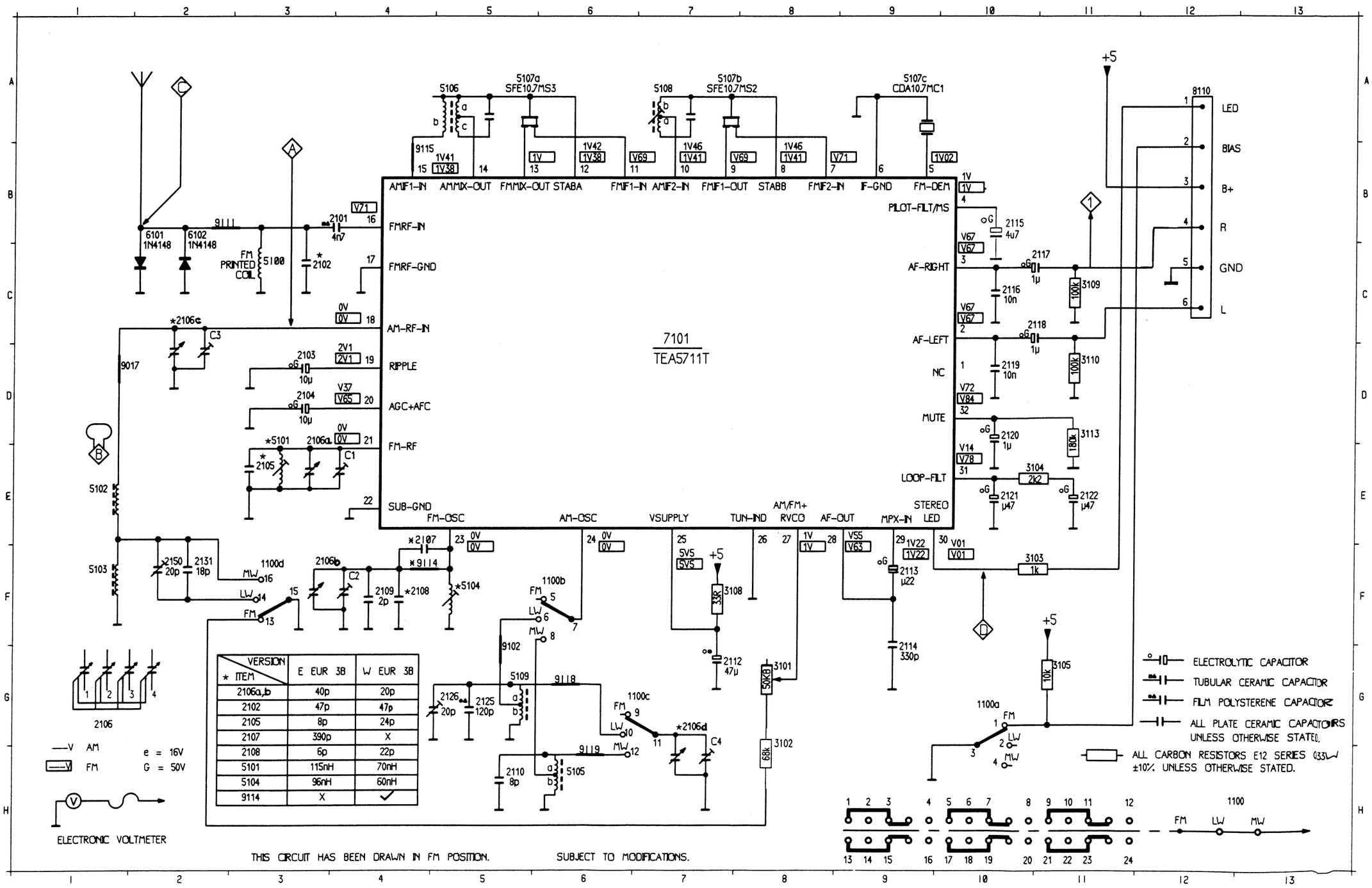
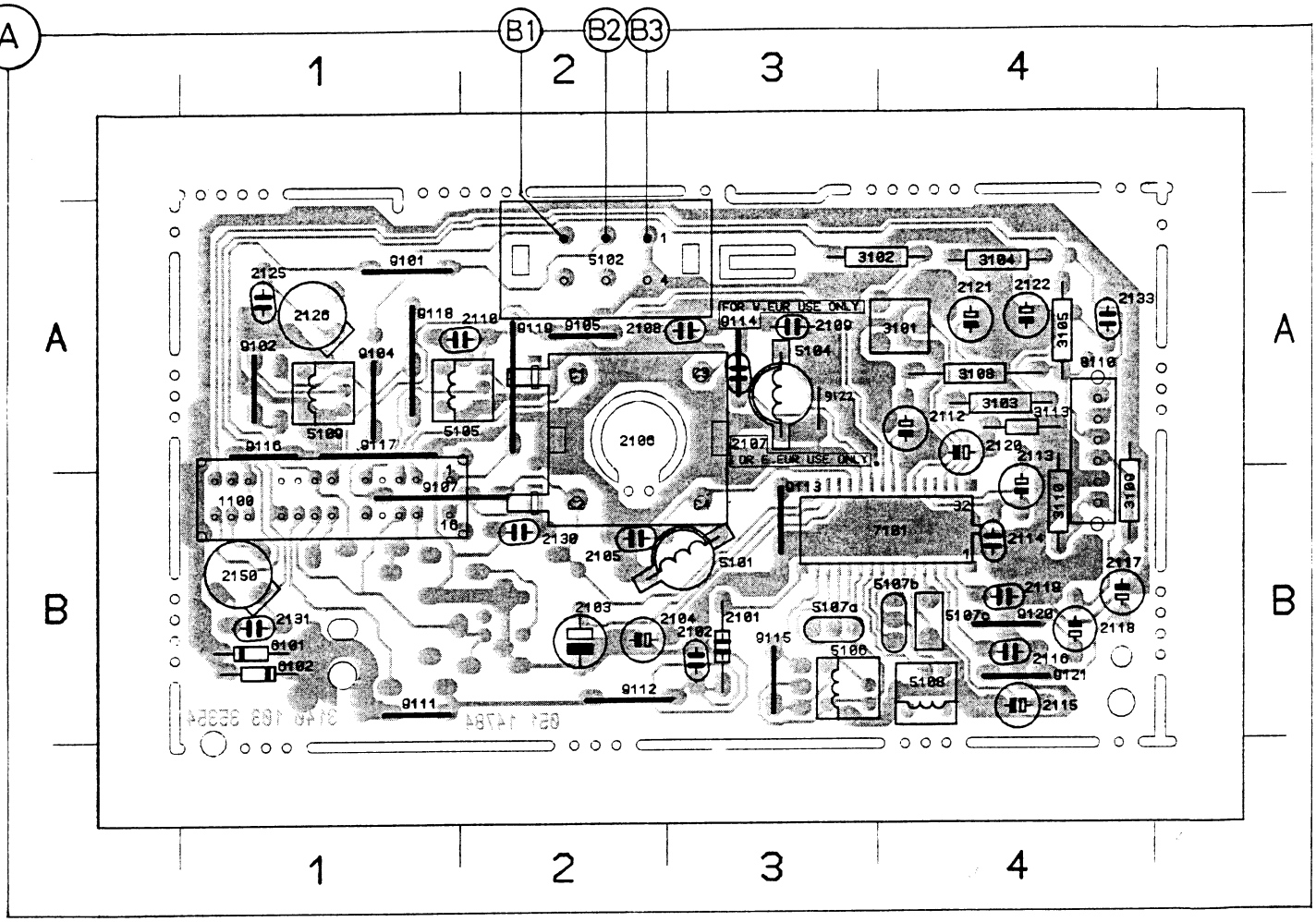


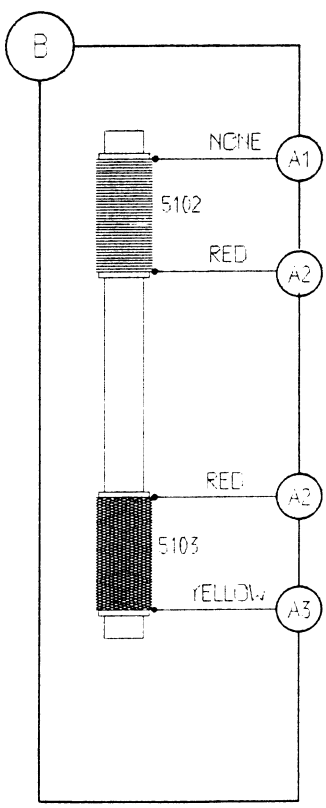
Fig. 5

1100a G10 2101 B 4 2105 E 3 2106d G 7 2110 H 5 2115 B10 2119 D10 2125 G 5 3101 G 8 3105 G11 5100 C 3 5104 F 5 5107b A 7 6101 B 2 9017 D 1 9115 B 4 3113 D11
1100b F 6 2102 C 3 2106a D 3 2107 E 4 2112 G 7 2116 C10 2120 D10 2126 G 5 3102 H 8 3108 F 7 5101 D 3 5105 H 6 5107c A 9 6102 B 2 9102 G 5 9118 G 6
1100c G 7 2103 D 3 2106b F 3 2108 F 4 2113 F 9 2117 C11 2121 E10 2131 F 2 3103 F10 3109 C11 5102 E 1 5106 A 5 5108 A 7 7101 C 7 9111 B 2 9119 H 6
1100d F 3 2104 D 3 2106c C 2 2109 F 4 2114 G 9 2118 C10 2122 E11 2150 F 2 3104 E10 3110 D11 5103 F 1 5107a A 5 5109 G 5 8110 A12 9114 F 4



TUNER BOARD (/00/05) - COMPONENT LAYOUT



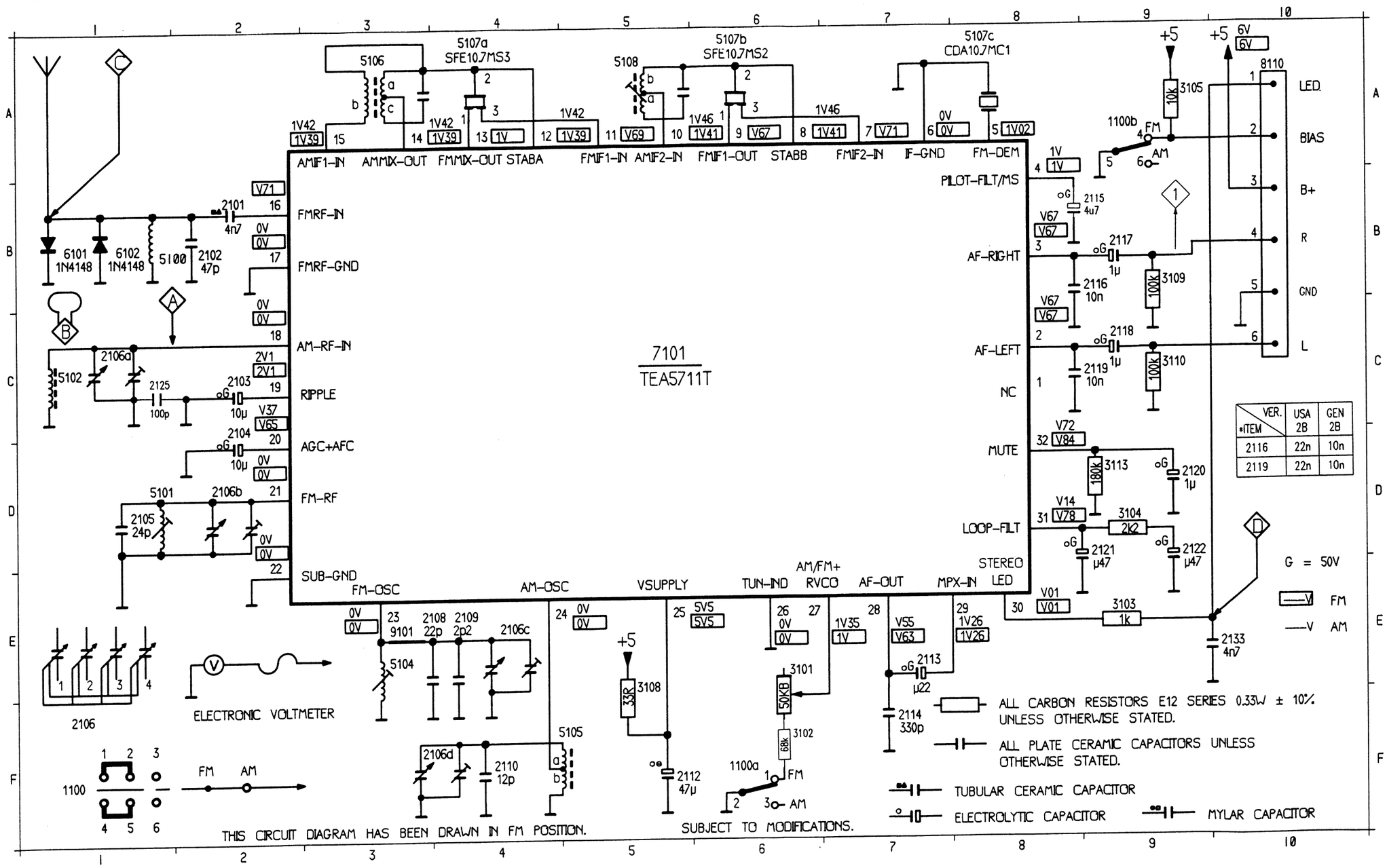


1100 B 1
2101 B 3
2102 B 3
2103 B 2
2104 B 2
2105 B 2
2106 A 2
2107 A 3
2108 A 3
2109 A 3
2110 A 2
2112 A 4
2113 B 4
2114 B 4
2115 B 4
2116 B 4
2117 B 4
2118 B 4
2119 B 4
2120 A 4
2121 A 4
2122 A 4
2125 A 1
2126 A 1
2130 B 2
2131 B 1
2133 A 4
2150 B 1
3101 A 4
3102 A 3
3103 A 4
3104 A 4
3105 A 4
3108 A 4
3109 B 4
3110 B 4
3113 A 4
5101 B 3
5102 A 2
5104 A 3
5105 A 2
5106 B 3
5107a B 3
5107b B 4
5107c B 4
5108 B 4
5109 A 1
6101 B 1
6102 B 1
7101 B 4
8110 A 4
9101 A 1
9102 A 1
9104 A 1
9105 A 2
9107 B 1
9111 B 1
9112 B 2
9113 B 3
9114 A 3
9115 B 3
9116 A 1
9117 A 1
9118 A 1
9119 A 2
9120 B 4
9121 B 4
9122 A 3

TUNER BOARD (/01/17) - CIRCUIT DIAGRAM

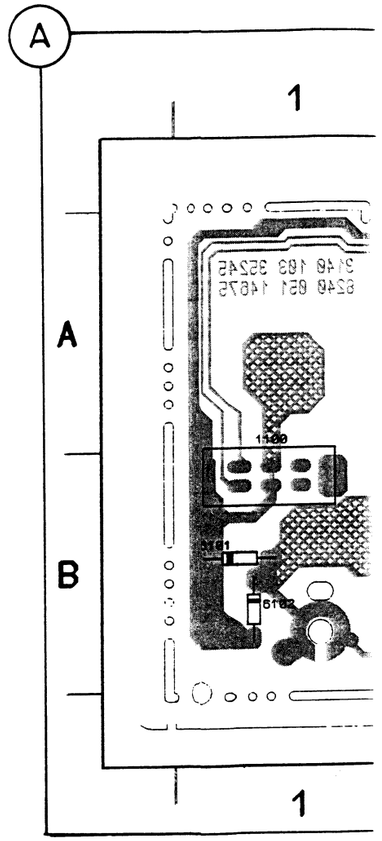
1100a	F 6	2103	C 2	2106b	D 2	2109	E 4	2114	F 7	2118	C 9	2122	D 9	3103	E 9	3109	B 9	5101	D 1
1100b	A 9	2104	C 2	2106c	E 4	2110	F 4	2115	B 9	2119	C 9	2133	E10	3104	D 9	3110	C 9	5102	C 1
2101	B 2	2105	D 1	2106d	F 4	2112	F 5	2116	B 9	2120	D 9	3101	E 6	3105	A 9	3113	D 9	5104	E 3
2102	B 2	2106a	C 1	2108	E 4	2113	E 7	2117	B 9	2121	D 9	3102	F 6	3108	E 5	5100	B 2	5105	F 5

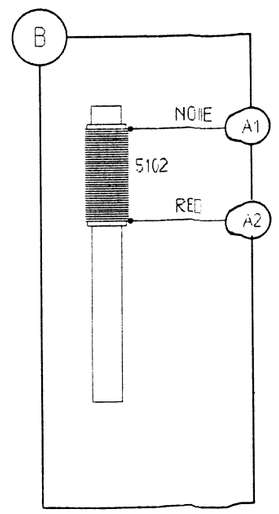
5106	A 3	5108	A 5	8110	A10				
5107a	A 4	6101	B 1	9101	E 3				
5107b	A 6	6102	B 1						
5107c	A 8	7101	C 5	2135	C 1				



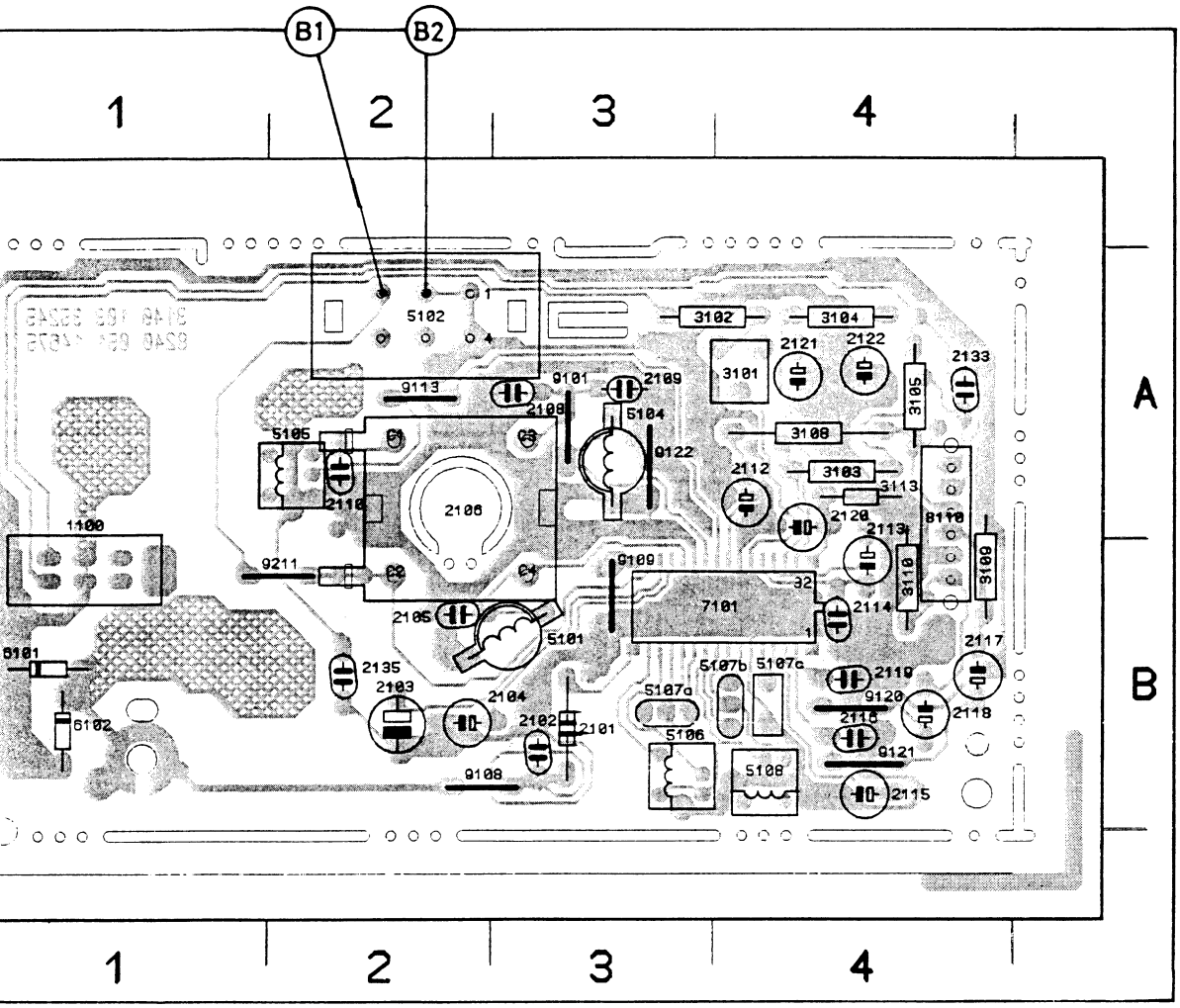
VER. / *ITEM	USA 2B	GEN 2B
2116	22n	10n
2119	22n	10n

TUNER BOARD (/01/17) - CO

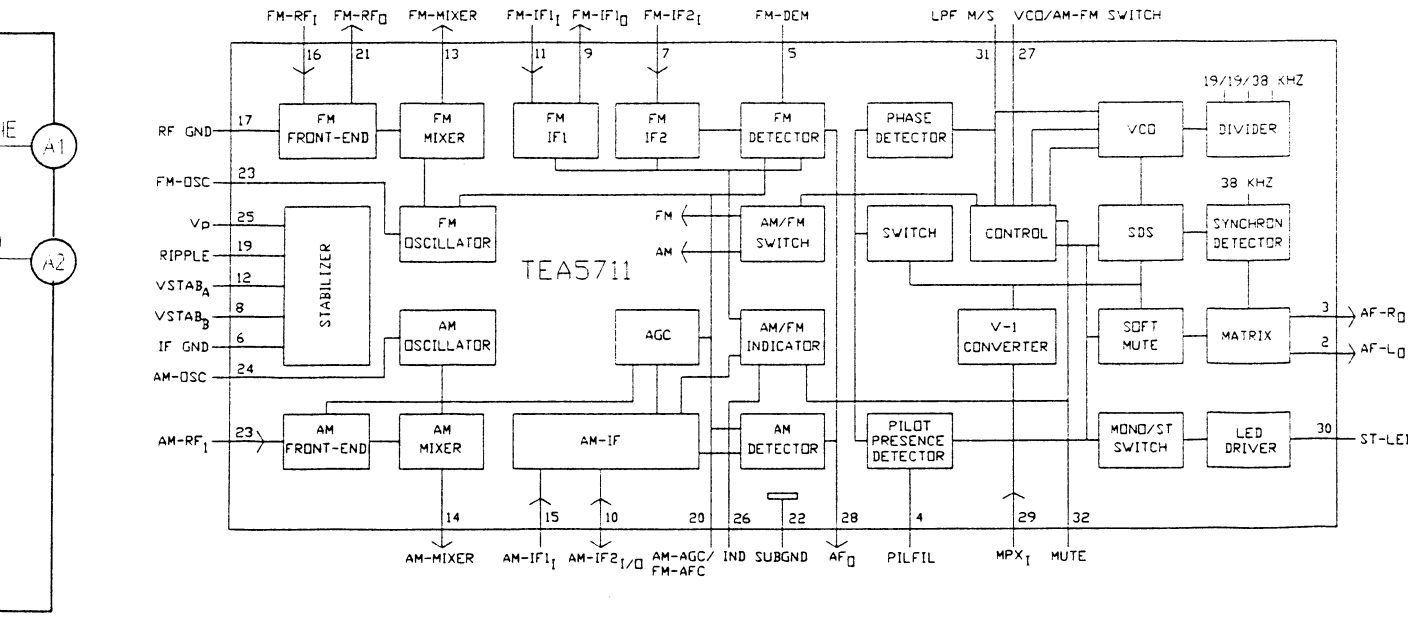




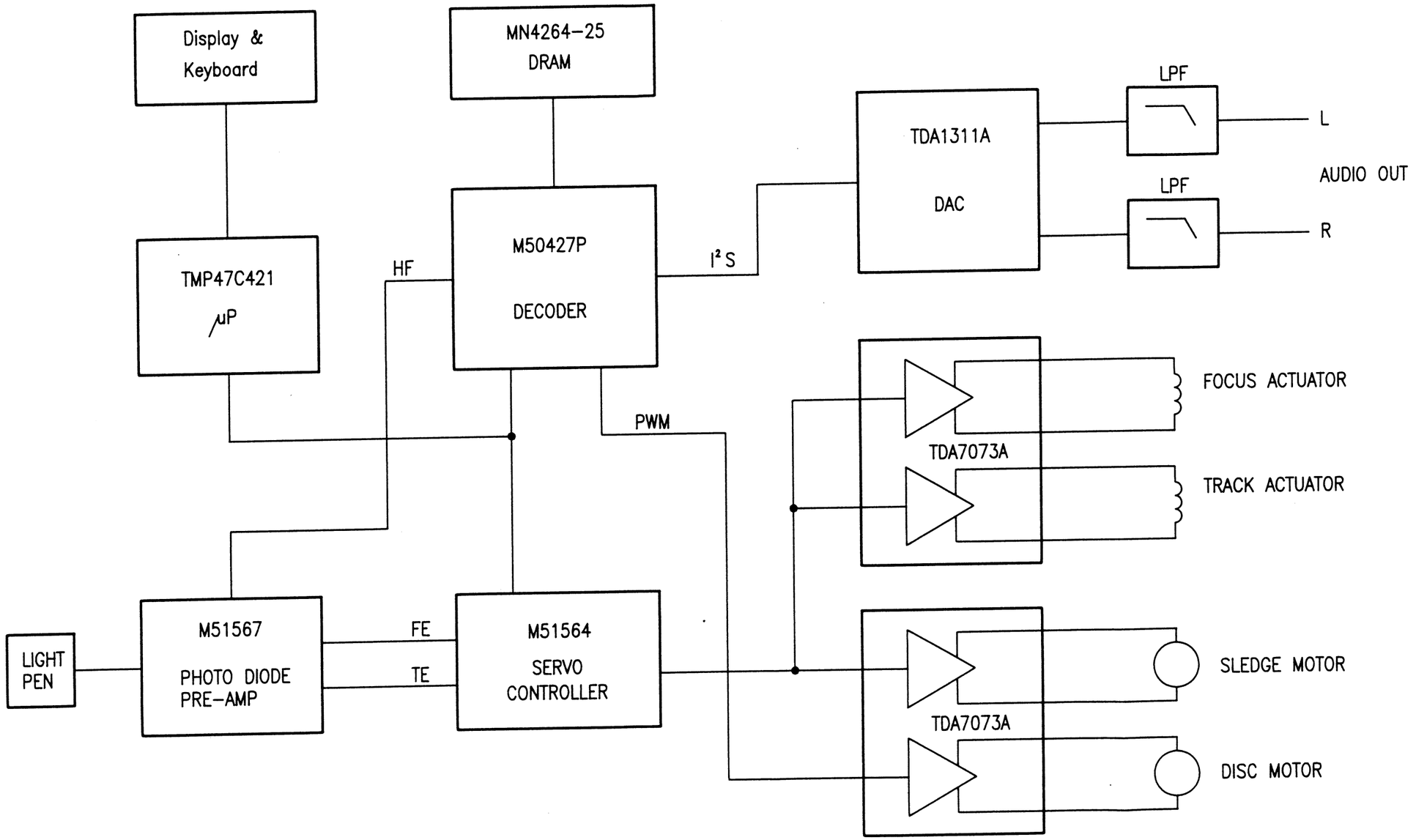
(/01/17) - COMPONENT LAYOUT



1100 B 1
2101 B 3
2102 B 3
2103 B 2
2104 B 2
2105 B 2
2106 A 2
2108 A 3
2109 A 3
2110 A 2
2112 A 4
2113 B 4
2114 B 4
2115 B 4
2116 B 4
2117 B 4
2118 B 4
2119 B 4
2120 A 4
2121 A 4
2122 A 4
2133 A 4
2135 B 2
3101 A 4
3102 A 3
3103 A 4
3104 A 4
3105 A 4
3108 A 4
3109 B 4
3110 B 4
3113 A 4
5101 B 3
5102 A 2
5104 A 3
5105 A 2
5106 B 3
5107a B 3
5107b B 4
5107c B 4
5108 B 4
6101 B 1
6102 B 1
7101 B 4
9110 A 4
9101 A 3
9108 B 2
9109 B 3
9113 A 2
9120 B 4
9121 B 4
9122 A 3
9211 B 2



CD1 MODULE FUNCTIONAL BLOCK DIAGRAM

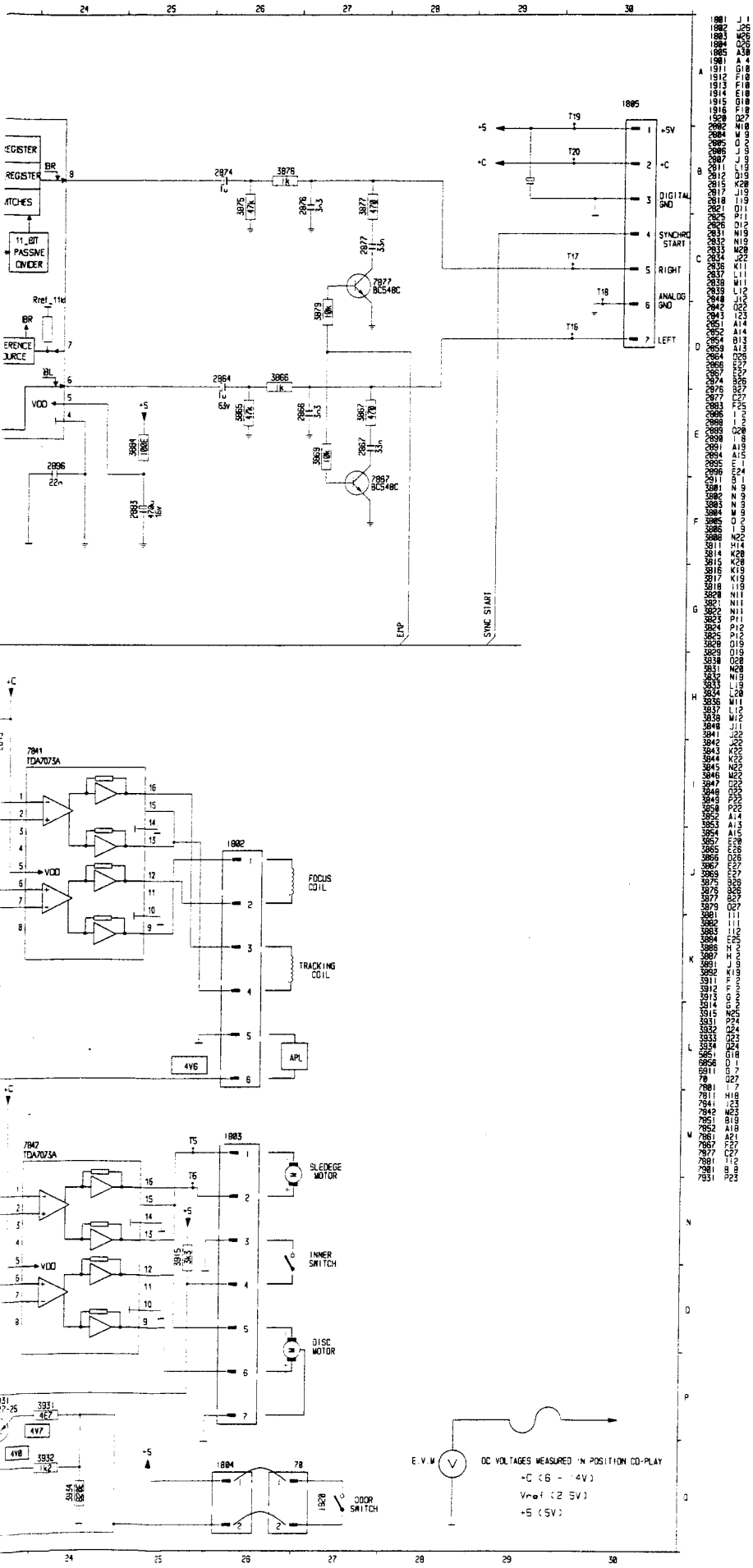


CD SERVICE MODE

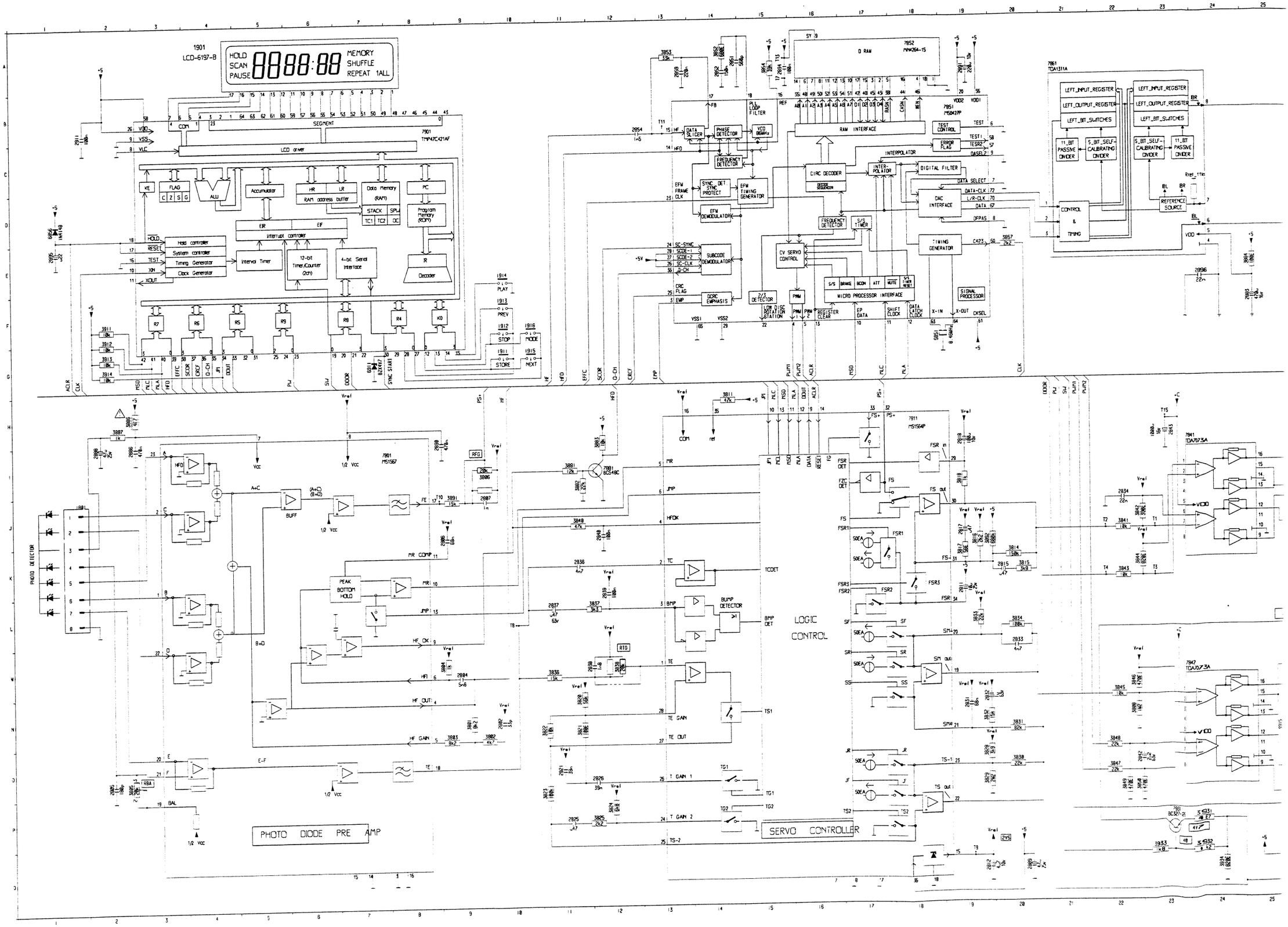
Following can be tested with testprogramme 1:

- Displays
- Sledge motor
- Focus servo

Operation Sequence	Display shows	Remarks	In case of problem check
Step 1 Insert any disk in CD compartment and shut CD door. To start test program1, Hold "Memory" & "Previous" depress while setting mode switch to "CD"	—		
Step 2 Press "Play"	—	Focus on, Disk motor on	Focus Servo cct
Step 3 Press "Play"	— —	Switch Slide + Track servo on	Sledge motor and drivercct for sledge motor
Step 4 Press "Next"	— —	Jump ≈ 16 tracks forward	
Press "Previous"	— —	Jump ≈ 16 track backward	
Press " Play"	MEMORY SCAN 1111 1111:1111 SHUFFLE REPEAT 1 ALL	Display check every 2nd line activated	
Press " Play" again	HOLD MEMORY SCAN 8888:88 SHUFFLE PAUSE REPEAT 1 ALL	Display check every line	connection Display
Press "Stop" to get back in step1. Power off/Switch to Radio to exit Service mode			


11_BIT PASSIVE DIVIDER
Rref_11kΩ
VDD
+5
+C
T19
T20
T17
T18
T16
+5V
DIGITAL GND
SYNCHRO START
RIGHT
ANALOG GND
LEFT
7877 BC548C
7897 BC548C
ERP
SYNC START
7841 TDA7073A
FOCUS COIL
TRACKING COIL
APL
7842 TDA7073A
SLEDEGE MOTOR
INNER SWITCH
DISC MOTOR
DOOR SWITCH
E.V.M
DC VOLTAGES MEASURED IN POSITION CD-PLAY
+C (6 - 7.4V)
Vref (2.5V)
+5 (5V)

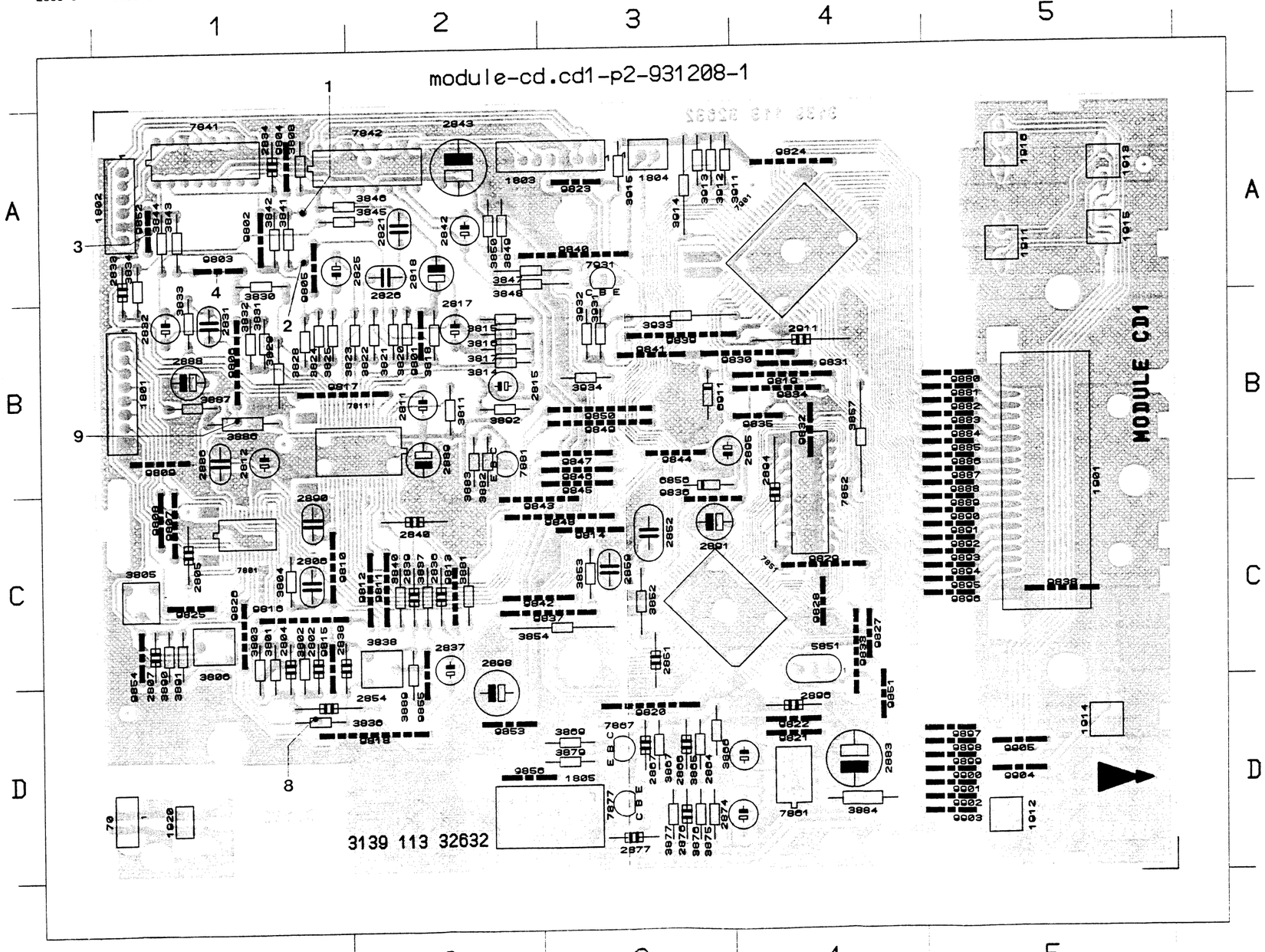
CD1 CIRCUIT DIAGRAM



CD1 BOARD

COMPONENT LAYOUT

70 D 1	2806 C 1	2839 C 2	2889 B 2	3815 B 2	3836 D 1	3857 B 4	3891 C 1	7842 A 2	9809 B 1	9826 C 1	9843 C 2	9883 B 5	9900 D 5	T13 D 4
1801 B 1	2807 C 1	2840 C 2	2890 C 1	3816 B 2	3837 C 2	3865 D 3	3892 B 2	7851 C 3	9810 C 1	9827 C 4	9844 B 3	9884 B 5	9901 D 5	T15 A 2
1802 A 1	2811 B 2	2842 A 2	2891 C 3	3817 B 2	3838 C 2	3866 D 3	3911 A 3	7852 C 4	9811 C 2	9828 C 4	9845 B 3	9885 B 5	9902 D 5	T16 D 3
1803 A 3	2812 B 1	2843 A 2	2894 C 4	3818 B 2	3840 C 2	3867 D 3	3912 A 3	7861 D 4	9812 C 2	9829 C 4	9846 B 3	9886 B 5	9903 D 5	T17 D 3
1804 A 3	2815 B 2	2851 C 3	2895 B 3	3820 B 2	3841 A 1	3869 D 3	3913 A 3	7867 D 3	9813 C 2	9830 B 4	9847 B 3	9887 B 5	9904 D 5	T18 D 3
1805 D 3	2817 B 2	2852 C 3	2896 D 4	3821 B 2	3842 A 1	3875 D 3	3914 A 3	7877 D 3	9814 C 3	9831 B 4	9848 C 3	9888 C 5	9905 D 5	T19 D 4
1901 C 5	2818 A 2	2854 D 1	2898 D 2	3822 B 2	3843 A 1	3876 D 3	3915 A 3	7881 B 2	9815 C 1	9832 B 4	9849 B 3	9889 C 5	T1 A 1	T20 D 2
1911 A 5	2821 A 2	2859 C 3	2911 B 4	3823 B 2	3844 A 1	3877 D 3	3931 B 3	7901 A 4	9816 C 1	9833 C 4	9850 B 3	9890 C 5	T2 A 1	
1912 D 5	2825 A 1	2864 D 4	3801 C 1	3824 B 1	3845 A 1	3879 D 3	3932 B 3	7931 A 3	9817 B 1	9834 B 4	9851 D 4	9891 C 5	T3 A 1	
1913 A 5	2826 A 2	2866 D 3	3802 C 1	3825 B 1	3846 A 1	3881 C 2	3933 B 3	9801 B 2	9818 D 2	9835 B 4	9852 A 1	9892 C 5	T4 A 1	
1914 D 5	2831 B 1	2867 D 3	3803 C 1	3828 B 1	3847 A 2	3882 B 2	3934 B 3	9802 A 1	9819 B 4	9836 C 3	9853 D 2	9893 C 5	T5 A 2	
1915 A 5	2832 B 1	2874 D 4	3804 C 1	3829 B 1	3848 A 2	3883 B 2	5851 C 4	9803 A 1	9820 D 3	9837 C 3	9854 C 1	9894 C 5	T6 A 3	
1916 A 5	2833 A 1	2876 D 3	3805 C 1	3830 A 1	3849 A 2	3884 D 4	6856 B 3	9804 A 1	9821 D 4	9838 C 5	9855 C 2	9895 C 5	T7 D 2	
1920 D 1	2834 A 1	2877 D 3	3806 C 1	3831 B 1	3850 A 2	3886 B 1	6911 B 3	9805 A 1	9822 D 4	9839 B 3	9856 D 2	9896 C 5	T8 D 1	
2802 C 1	2836 C 2	2883 D 4	3808 A 1	3832 B 1	3852 C 3	3887 B 1	7801 C 1	9806 B 1	9823 A 3	9840 A 3	9880 B 5	9897 D 5	T9 B 1	
2804 C 1	2837 C 2	2886 B 1	3811 B 2	3833 B 1	3853 C 3	3889 C 2	7811 B 2	9807 C 1	9824 A 4	9841 B 3	9881 B 5	9898 D 5	T10 C 1	
2805 C 1	2838 C 1	2888 B 1	3814 B 2	3834 A 1	3854 C 3	3890 C 1	7841 A 1	9808 C 1	9825 C 1	9842 C 2	9882 B 5	9899 D 5	T11 D 2	



CD1 ADJUSTMENT TABLE

CD-PART					
LASER CURRENT					
The APC (Automatic Power Control) for the laser diode is located on the disc drive and has been adjusted in the production line. Therefore for service purpose it is not intended to adjust the laser current.					
TRACKING BALANCE					
Service pos. 2 * Display shows "_"		8 9	3805	Adjust to 0V DC Offset	
TRACKING GAIN					
Play with Test Disc 5 **	1200 Hz 100 mVrms	see Fig. 1	3838		CHX = 50 mV/DIV CHY = 50 mV/DIV (AC-COUPLED) Adjust according to Fig. 3
FOCUS GAIN					
Play with Test Disc 5	1200 Hz 500 mVrms	see Fig. 2	3806		CHX = 200 mV/DIV CHY = 200 mV/DIV (AC-COUPLED) Adjust according to Fig. 3

Test disc 5 4822 397 30096

* See CD Service mode

* * 2839 must be shorted during adjustment.

Fig. 1

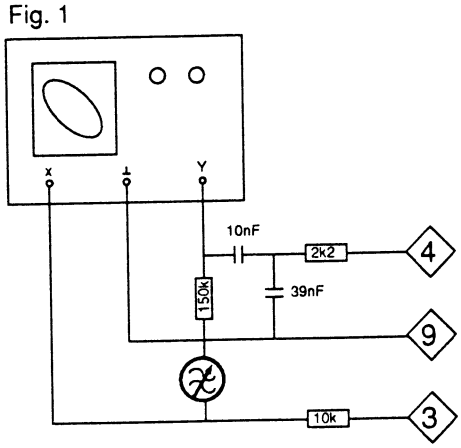


Fig. 2

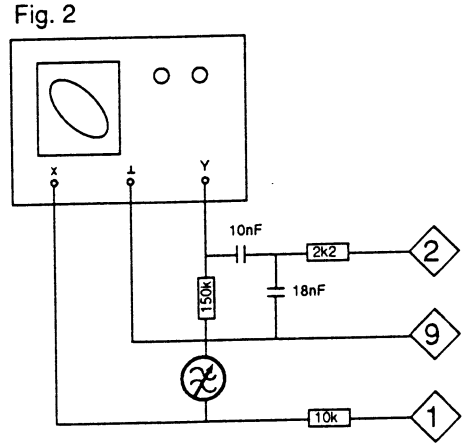
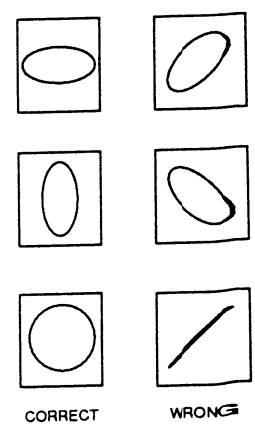
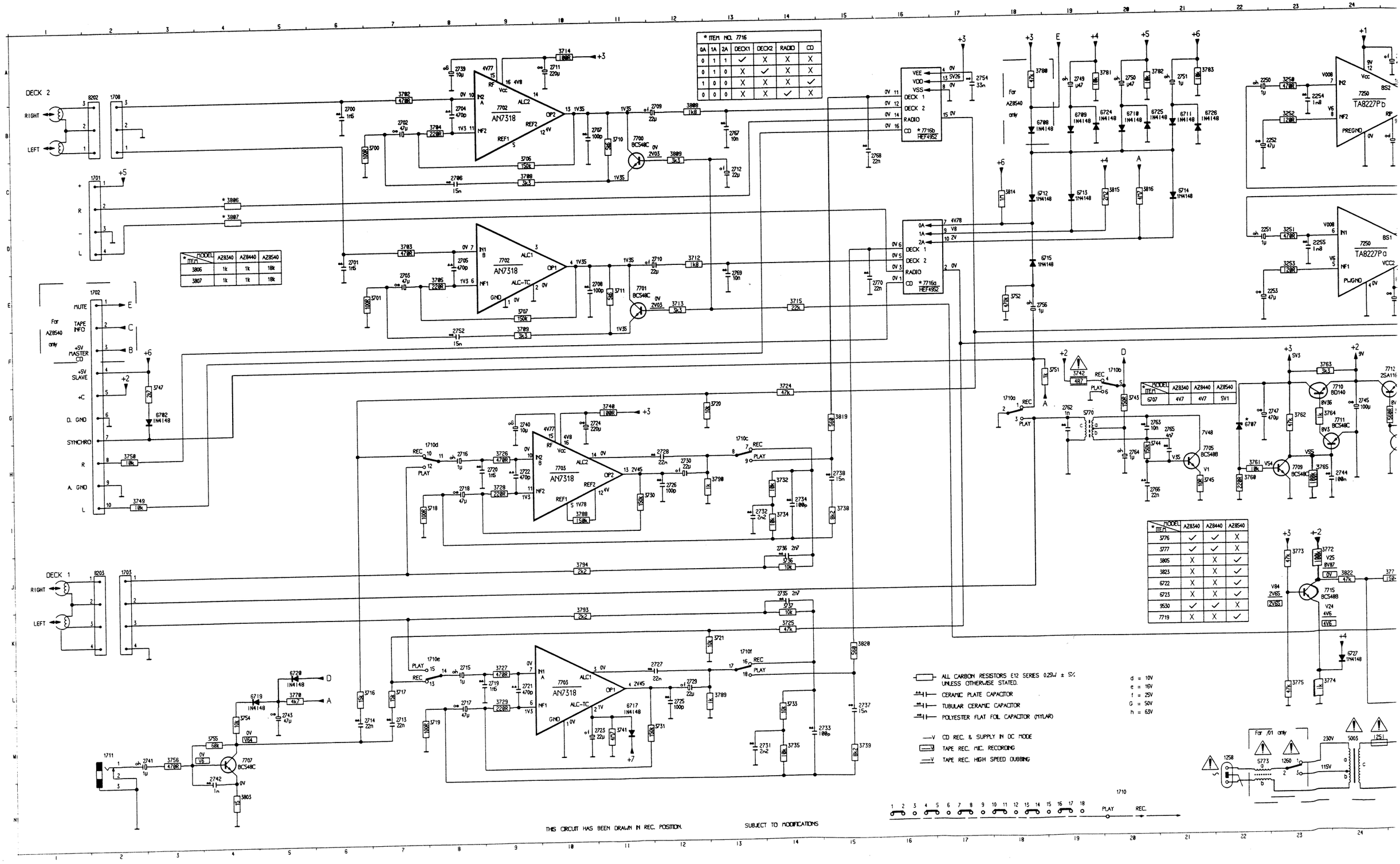
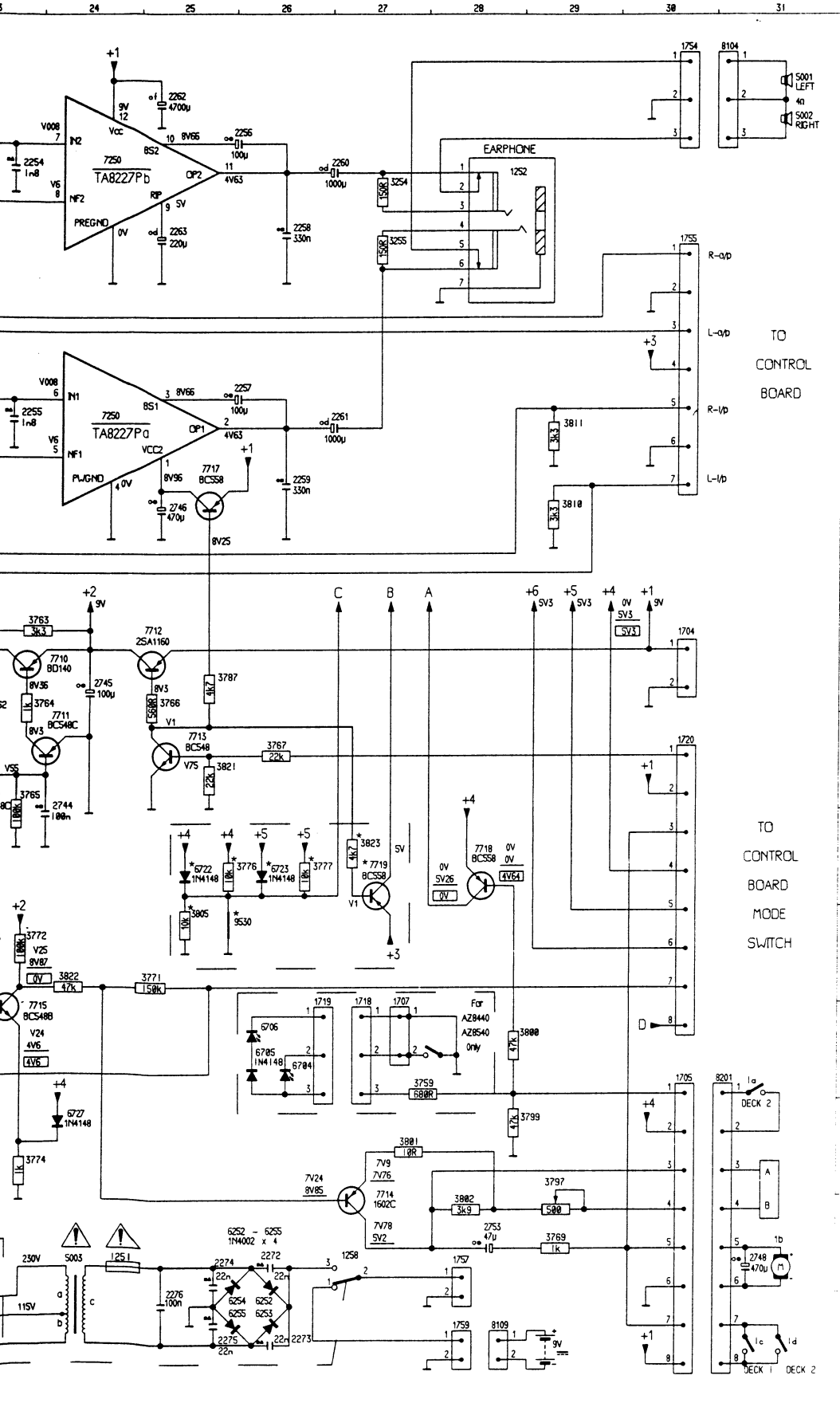


Fig. 3



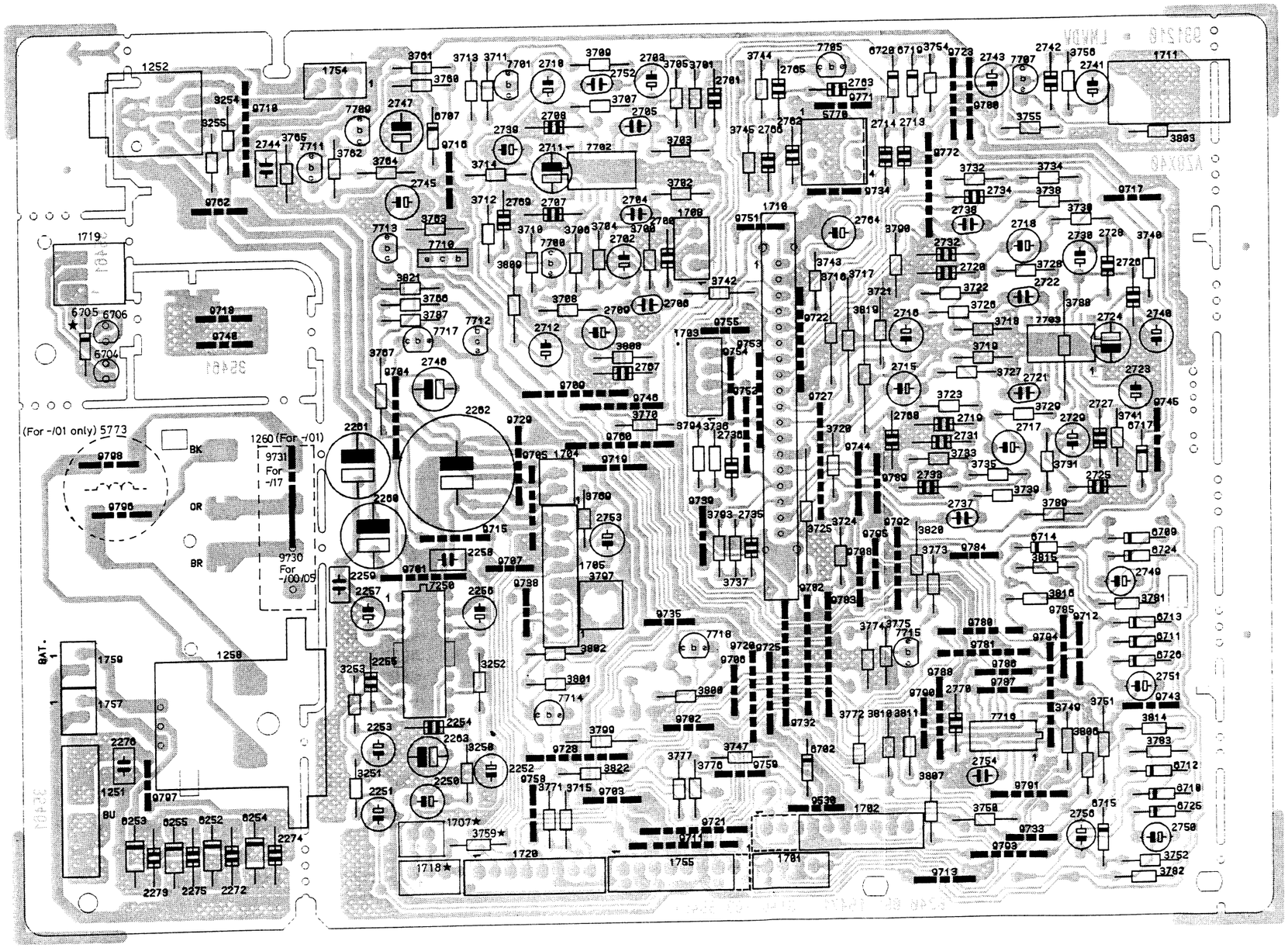
COMBI BOARD - CIRCUIT DIAGRAM





1a	K31	3736	J14
1c	N31	3737	K14
1d	N31	3738	I15
1003	K28	3739	M15
1251	M24	3740	G17
1252	B28	3741	M11
1258	M22	3742	G19
1259	M27	3743	G20
1260	N23	3744	H20
1701	C 2	3745	I21
1702	E 2	3747	G 3
1703	J 2	3749	I 2
1704	G30	3750	H 2
1705	K30	3751	E18
1707	K27	3752	E19
1708	A 2	3754	L 4
1710a	G18	3755	M 4
1710b	G20	3756	M 3
1710c	H13	3759	K27
1710d	H 8	3760	I22
1710e	K 8	3761	H22
1710f	K13	3762	G23
1711	M 2	3763	G23
1718	K27	3764	G24
1719	K26	3765	H23
1720	H30	3766	G25
1754	A30	3767	H26
1755	C30	3769	M29
1757	M28	3770	L 5
1759	N28	3771	J25
2250	B22	3772	J23
2251	D22	3773	J23
2252	C23	3774	L23
2253	E23	3775	L23
2254	B23	3776	I26
2255	D23	3777	I26
2256	B26	3780	A18
2257	D26	3781	A20
2258	B26	3782	A21
2259	E26	3783	A21
2260	B27	3787	G25
2261	D27	3788	I10
2262	A25	3789	L13
2263	C25	3790	H13
2272	M26	3793	K10
2273	N26	3794	J10
2274	M25	3797	L29
2275	N25	3799	L29
2276	N25	3800	K29
2700	B 6	3801	L27
2701	D 6	3802	M28
2702	B 7	3803	N 4
2703	E 7	3805	J25
2704	B 8	3806	C 4
2705	D 8	3807	D 4
2706	C 8	3808	B12
2707	B11	3809	C12
2708	E11	3810	E29
2709	B12	3811	E29
2710	D12	3814	C18
2711	A10	3815	C20
2712	C13	3816	C20
2713	M 7	3819	G15
2714	N 6	3820	K15
2715	L 8	3821	H25
2716	H 8	3822	J24
2717	L 8	3823	I27
2718	H 8	5001	A31
2719	L 9	5002	A31
2720	H 9	5770	G19
2721	L 9	5773	N22
2722	H 9	6252	N26
2723	M11	6253	N26
2724	G11	6254	N25
2725	L12	6255	N25
2726	H12	6702	G 3
2727	L12	6704	K26
2728	H12	6705	K26
2729	L12	6706	K26
2730	H12	6707	H22
2731	M13	6708	B19
2732	I13	6709	B19
2733	M15	6710	B20
2734	I14	6711	B21
2735	J14	6712	C18
2736	J14	6713	C19
2737	L15	6714	C21
2738	H15	6715	E19
2739	A 8	6717	L11
2740	G 9	6719	L 4
2741	M 3	6720	L 5
2742	N 4	6722	I25
2743	L 5	6723	I26
2744	H24	6724	B20
2745	G24	6725	B21
2746	E25	6726	B21
2747	G23	6727	L24
2748	M31	7250	D24
2749	A19	7250	B24
2750	A20	7700	B11
2751	A21	7701	E11
2752	F 8	7702	D 9
2753	M28	7702	B 9
2754	A17	7703	L10
2756	E18	7703	H10
2762	G19	7705	H21
2763	H20	7707	M 4
2764	H20	7709	H23
2765	H21	7710	G24
2766	I20	7711	H24
2767	B13	7712	G25
2768	C16	7713	H25
2769	E13	7714	M27
2770	E16	7715	K23
3250	B23	7716a	E16
3251	D23	7716b	B16
3252	B23	7717	E25
3253	E23	7718	I29
3254	B27	7719	I27
3255	C27	8104	A31
3700	B 7	8109	N28
3701	E 7	8201	K31
3702	A 7	8202	A 2
3703	D 7	8203	J 2
3704	B 8	9530	J26
3705	E 8		
3706	C 9		
3707	E 9		
3708	C 9		
3709	F 9		
3710	B11		
3711	E11		
3712	D12		
3713	E12		
3714	A10		
3715	E14		
3716	L 6		
3717	L 7		
3718	I 8		
3719	M 8		
3720	G13		
3721	K13		
3724	G14		
3725	K14		
3726	H 9		
3727	L 9		
3728	H 9		
3729	L 9		
3730	I11		
3731	M12		
3732	H14		
3733	L14		
3734	I14		
3735	M14		

COMBI BOARD - COMPONENT LAYOUT



1251 E 1	2732 B 6	3729 C 7	3820 D 6	9729 C 3
1252 A 1	2733 C 6	3730 A 7	3821 B 3	9731 C 2
1258 E 1	2734 A 6	3731 C 7	3822 E 4	9732 D 5
1701 E 5	2735 C 5	3732 A 6	5770 A 5	9733 E 7
1702 E 6	2736 C 5	3733 C 6	6252 E 1	9734 A 5
1703 B 5	2737 C 6	3734 A 7	6253 E 1	9735 D 4
1704 C 4	2738 A 6	3735 C 6	6254 E 2	9738 D 3
1705 D 4	2739 A 3	3736 C 5	6255 E 1	9739 C 5
1708 B 4	2740 B 7	3737 C 5	6702 E 5	9740 B 2
1710 C 5	2741 A 7	3738 A 7	6707 A 3	9743 E 7
1711 A 7	2742 A 7	3739 C 6	6709 C 7	9744 C 6
1720 E 3	2743 A 6	3740 B 7	6710 E 7	9745 C 7
1754 A 2	2744 A 2	3741 C 7	6711 D 7	9746 C 4
1755 E 4	2745 A 3	3742 B 5	6712 E 7	9751 A 5
1757 D 1	2746 B 3	3743 B 5	6713 D 7	9752 C 5
1759 D 1	2747 A 3	3744 A 5	6714 D 7	9753 C 5
2250 E 3	2749 D 7	3745 A 5	6715 E 7	9754 B 5
2251 E 2	2750 E 7	3747 E 5	6717 C 7	9755 B 5
2252 E 3	2751 D 7	3749 E 7	6719 A 6	9758 E 3
2253 E 2	2752 A 4	3750 E 6	6720 A 6	9759 E 5
2254 E 3	2753 C 4	3751 E 7	6724 D 7	9760 C 4
2255 D 2	2754 E 6	3752 E 7	6725 E 7	9762 A 1
2256 D 3	2756 E 7	3754 A 6	6726 D 7	9771 A 5
2257 D 2	2762 A 5	3755 A 7	7250 D 3	9772 A 6
2258 D 3	2763 A 5	3756 A 7	7700 B 4	9780 D 6
2259 D 2	2764 B 5	3760 A 3	7701 A 3	9781 D C
2260 C 2	2765 A 5	3761 A 3	7702 A 4	9782 D 5
2261 C 2	2766 A 5	3762 A 2	7703 B 7	9783 D 5
2262 C 3	2767 B 4	3763 A 3	7705 A 5	9784 D 6
2263 E 3	2768 C 6	3764 A 3	7707 A 7	9785 D 7
2272 E 2	2769 A 3	3765 A 2	7709 A 2	9786 D 6
2273 E 1	2770 E 6	3766 B 3	7710 B 3	9787 D 6
2274 E 2	3250 E 3	3767 B 3	7711 A 2	9788 E 6
2275 E 1	3251 E 2	3769 C 4	7712 B 3	9789 C 6
2276 E 1	3252 D 3	3770 C 4	7713 B 3	9790 E 6
2700 B 4	3253 D 2	3771 E 4	7714 E 4	9791 E 7
2701 A 5	3254 A 2	3772 E 5	7715 D 6	9792 D 6
2702 B 4	3255 A 1	3773 D 6	7716 E 6	9793 E 6
2703 A 4	3700 B 4	3774 D 6	7717 B 3	9794 D 7
2704 A 4	3701 A 4	3775 D 6	7718 D 4	9795 D 6
2705 A 4	3702 A 4	3776 E 4	9530 E 5	9796 C 1
2706 B 4	3703 A 4	3777 E 4	9700 A 6	9797 E 1
2707 A 4	3704 B 4	3781 D 7	9701 D 3	9798 C 1
2708 A 4	3705 A 4	3782 E 7	9702 E 4	
2709 B 4	3706 B 4	3783 E 7	9703 E 4	FOR /01
2710 A 4	3707 A 4	3787 B 3	9704 C 3	1260 C 2
2711 A 4	3708 B 4	3788 B 7	9705 C 3	5773 C 1
2712 B 4	3709 A 4	3789 C 7	9706 D 5	
2713 A 6	3710 B 3	3790 B 6	9707 D 3	★FOR AZ8440
2714 A 6	3711 A 3	3793 C 5	9708 D 6	1707 E 3
2715 B 6	3712 A 3	3794 C 4	9709 B 4	1718 E 3
2716 B 6	3713 A 3	3797 D 4	9710 A 2	1719 B 1
2717 C 6	3714 A 3	3799 E 4	9711 E 4	3759 E 3
2718 B 7	3715 E 4	3800 D 4	9712 D 7	6704 B 1
2719 C 6	3716 B 5	3801 D 4	9713 E 6	6705 B 1
2720 B 6	3717 B 5	3802 D 4	9715 C 3	6706 B 1
2721 C 7	3718 B 6	3803 A 7	9716 A 3	
2722 B 7	3719 B 6	3806 E 7	9717 A 7	
2723 C 7	3720 C 5	3807 E 6	9718 B 2	
2724 B 7	3721 B 6	3808 B 4	9719 C 4	
2725 C 7	3722 B 6	3809 B 3	9720 D 5	
2726 B 7	3723 C 6	3810 E 6	9721 E 4	
2727 C 7	3724 D 5	3811 E 6	9722 B 5	
2728 B 7	3725 C 5	3814 E 7	9723 A 6	
2729 C 7	3726 B 6	3815 D 7	9725 D 5	
2730 B 7	3727 B 6	3816 D 7	9727 C 5	
2731 C 6	3728 B 7	3819 B 6	9728 E 4	

CASSETTE ADJUSTMENT

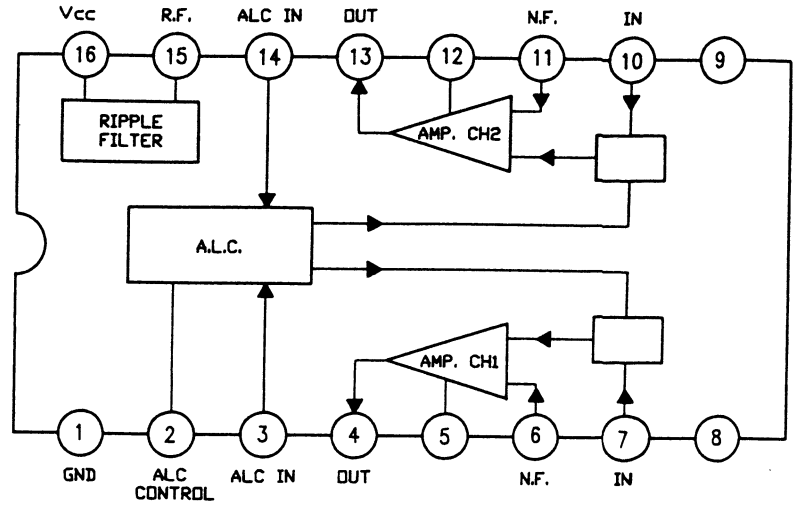
Adjustment	Cassette	Recorder position			Measure on	Read on	Adjust with	Adjust to
		SK...	Deck 1	Deck 2				
Azimuth	10 kHz SBC420*	Tape	Play	– –	1252 H/P Jack	mV meter	Left screw of P. head on Deck 1	max. L = R
		Tape	– –	Play	1252	mV meter	Left screws of P. head on Deck 2	
Motor speed	3150Hz SBC420*	Tape (nor. speed)	Play		1252	Wow and flutter meter	3797	**a
		Tape (H.S.D.)	Record	Play	1252	Frequency counter	Check only	6.0 kHz ±0.3 kHz

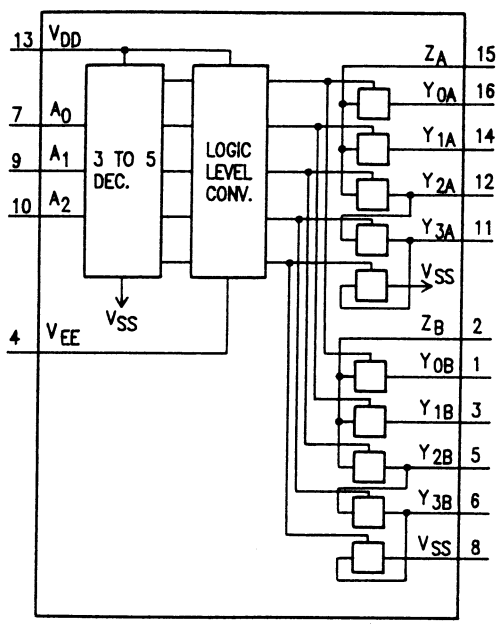
* SBC420 : 4822 397 30071

**a The maximum permissible speed deviation is ±3%.
Morever, the wow and flutter value can be read.

IC SPECIFICATIONS

AN7318S

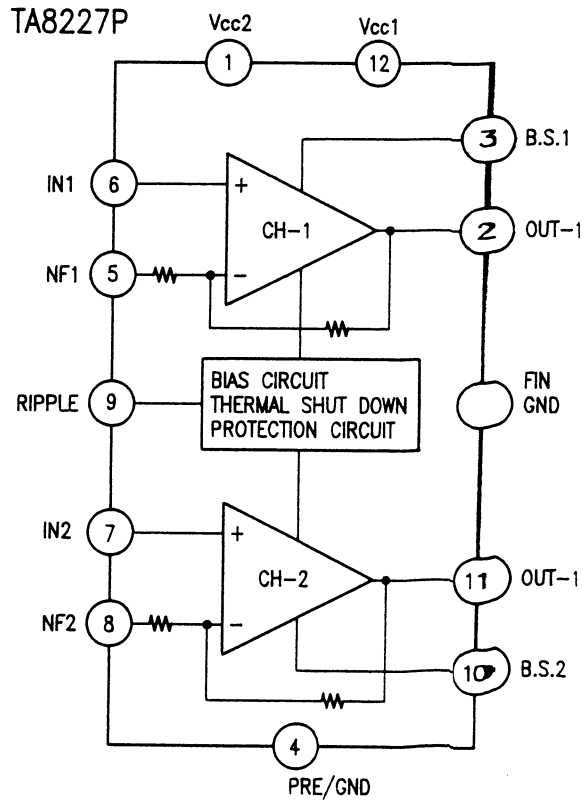




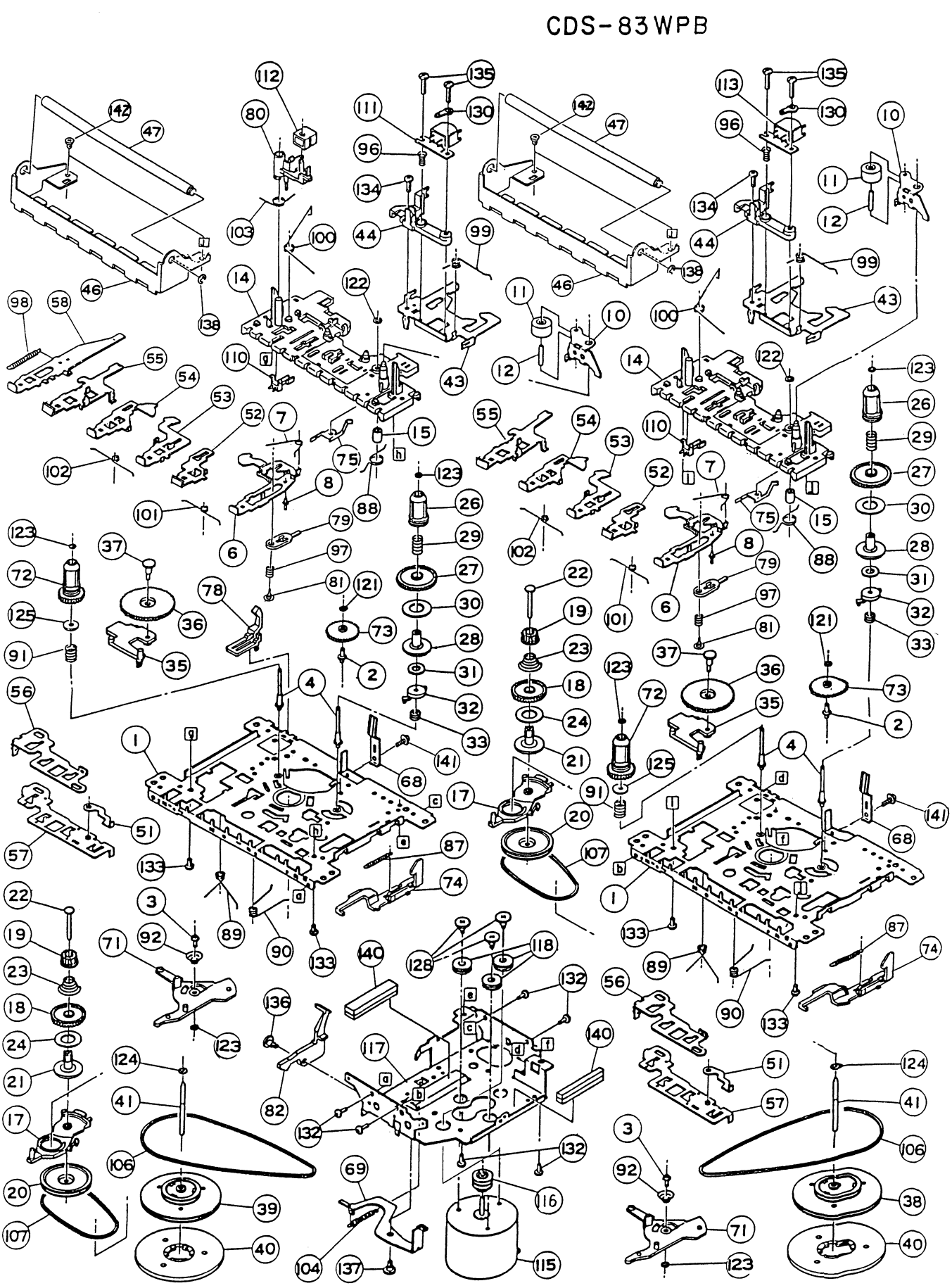
HEF4952B

PIN	SYMBOL	NAME AND FUNCTION
1, 3, 5, 6	Y_{0B} to Y_{3B}	independent 'B' inputs/outputs
2	Z_B	common 'B' input/output
4	V_{EE}	negative supply voltage
7, 9, 10	A_0 to A_2	address inputs
8	V_{SS}	ground
16,14,12,11	Y_{0A} to Y_{3A}	independent 'A' inputs/outputs
15	Z_A	common 'A' input/output
13	V_{DD}	positive supply voltage

TA8227P



EXPLODED VIEW DIAGRAM - TAPE DECK



MECHANICAL PARTSLIST – CASS. DECK (CDS–83WPB)

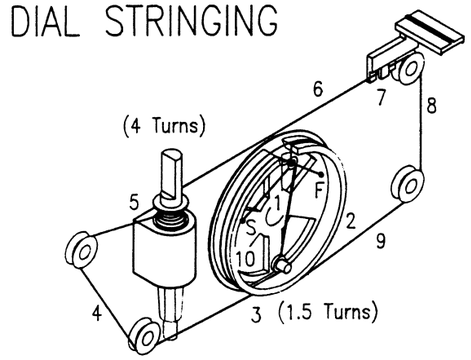
10	4822 528 70849	
11	4822 528 70695	
74	4822 403 30792	
106	4822 358 31125	
107	4822 358 31124	
110	4822 278 90663	
111	4822 249 10397	
112	4822 249 40296	
113	4822 249 10397	
115	4822 361 21592	
116	4822 528 81493	

MECHANICAL PARTSLIST – CABINET

401	4822 423 51172	
402	4822 458 30669	
403	4822 381 11495	–/00/01/05
403	4822 381 11499	–/17
404	4822 492 70231	
406	4822 444 60979	
407	4822 450 62215	
408	4822 450 62216	
409	4822 444 60981	
411	4822 492 42709	
412	4822 458 30671	
413	4822 462 40683	
416	4822 413 51472	
417	4822 492 51374	
418	4822 381 11496	
419	4822 410 63178	
421	4822 410 63177	
422	4822 410 63179	
424	4822 492 52397	
426	4822 410 63181	
427	4822 410 63175	
428	4822 410 63176	
429	4822 529 10278	
431	4822 410 63182	
432	4822 532 61103	
433	4822 466 93091	
434	4822 325 60381	
436	4822 450 62217	
437	4822 444 40734	
438	4822 492 52332	
439	4822 532 51871	
441	4822 402 61508	
442	4822 535 60096	
443	4822 276 13079	
444	4822 492 51374	
446	4822 492 40854	
447	4822 528 40208	
448	4822 498 10515	
449	4822 413 51473	
451	4822 381 11497	–/00/05
451	4822 381 11498	–/01
451	4822 381 11501	–/17
452	4822 444 30484	
453	4822 529 10257	
454	4822 411 61974	
456	4822 535 91958	
457	4822 450 81218	
458	4822 528 80907	
459	4822 403 30813	
461	4822 492 71519	
462	4822 404 10881	
463	4822 303 30298	
464	4822 492 51961	
466	4822 423 41255	
467	4822 492 51733	
468	4822 421 60223	
471	4822 321 10831	–/00/01
471	4822 321 10918	–/05
471	4822 321 10882	–/17
	4822 736 22018	I.F.U. –/00/01/05
	4822 736 22019	I.F.U. –/17

Note: Only those parts mentioned in this list are normal service parts.

EXPLODED VIEW DIAGRAM - CABINET



SCREW LIST :

①	M 2x3
②	M 2.6x6
③	Torx 2x8
④	Torx 2x16
⑤	Torx 3x8
⑥	Torx 3x10
⑦	Torx 3x12
⑧	Torx 3x32

AZ8340

TUNER BOARD –/00/05

2101	4822 122 32764	4,7nF 20% 50V
2102	4822 126 12812	47pF 5% 50V
2103	4822 124 41402	10µF 20% 50V
2104	4822 124 41402	10µF 20% 50V
2105	4822 126 12828	24pF 5% 50V
2106	4822 125 50647	Polyvaricon
2108	4822 122 32147	22pF 5% 50V N470
2109	4822 126 12809	2,2pF ±0,5p N470
2110	4822 126 12829	8,0pF ±0,5p N1500
2112	4822 124 40433	47µF 20% 16V
2113	4822 124 42129	0,22µF 20% 50V
2114	4822 126 12671	330pF 10% 50V
2115	5322 121 42661	330nF 20% 63V
2116	4822 124 80141	10nF 10% 50V
2117	4822 124 41398	1 µF 20% 50V
2118	4822 124 41398	1 µF 20% 50V
2119	4822 124 80141	10nF 10% 50V
2120	4822 124 41398	1 µF 20% 50V
2121	4822 124 40239	0,47µF 20% 50V
2122	4822 124 40239	0,47µF 20% 50V
2125	4822 126 12826	120pF 5% 50V N750
2126	4822 125 50045	Trim cap. 1,8–22pF
2131	4822 126 12824	18pF 5% 50V
2150	4822 125 50045	Trim cap. 1,8–22pF

3101	4822 100 20167	Potm. trim 50k
3102	4822 116 52297	Carb. film 68k 5%
3103	4822 116 83863	Carb. film 1k 5%
3104	4822 116 52256	Carb. film 2,2k 5%
3105	4822 116 52233	Carb. film 10k 5%
3108	4822 116 52191	Carb. film 33R 5%
3109	4822 116 52234	Carb. film 100k 5%
3110	4822 116 52234	Carb. film 100k 5%
3113	4822 116 52252	Carb. film 180k 5%

5101	4822 157 70513	Coil–FM ant
5102	4822 158 60627	Coil–MW/LW ant. assy
5104	4822 156 30947	Coil–FM osc
5105	4822 157 71145	Coil–MW osc
5106	4822 157 70499	IFT–AM
5107	4822 242 81154	FM cer. filter kits
5108	4822 156 11146	IFT–AM
5109	4822 157 71144	Coil–LW osc

6101	4822 130 30621	1N4148
6102	4822 130 30621	1N4148

7101	4822 209 32746	TEA5711/N2

– MISCELLANEOUS –

1100	4822 277 30933	Switch–slide 6P3T

Note: Only the parts mentioned in this list are normal service parts.

TUNER BOARD –/01/17

2101	4822 122 32764	4,7nF 20% 50V
2102	4822 126 12812	47pF 5% 50V
2103	4822 124 41402	10µF 20% 50V
2104	4822 124 41402	10µF 20% 50V
2105	4822 126 12814	24pF 5% 50V N220
2106	4822 125 50647	Polyvaricon
2108	4822 122 32147	22pF 5% 50V N470
2109	4822 126 12809	2,2pF ±0,5p N470
2110	4822 126 12361	12pF 5% 50V N750
2112	4822 124 40433	47µF 20% 16V
2113	4822 124 42129	0,22µF 20% 50V
2114	4822 126 12671	330pF 10% 50V
2115	5322 121 42661	330nF 20% 63V
2116	4822 124 80141	10nF 10% 50V
2117	4822 124 41398	1 µF 20% 50V
2118	4822 124 41398	1 µF 20% 50V
2119	4822 124 80141	10nF 10% 50V
2120	4822 124 41398	1 µF 20% 50V
2121	4822 124 40239	0,47µF 20% 50V
2122	4822 124 40239	0,47µF 20% 50V
2133	4822 126 12672	4,7nF 10% 50V
2134	4822 126 10777	100pF 5% 50V

3101	4822 100 20167	Potm. trim 50k
3102	4822 116 52297	Carb. film 68k 5%
3103	4822 116 83863	Carb. film 1k 5%
3104	4822 116 52256	Carb. film 2,2k 5%
3105	4822 116 52233	Carb. film 10k 5%
3108	4822 116 52191	Carb. film 33R 5%
3109	4822 116 52234	Carb. film 100k 5%
3110	4822 116 52234	Carb. film 100k 5%
3113	4822 116 52252	Carb. film 180k 5%

5101	4822 157 70513	Coil–FM ant
5102	4822 157 70731	Coil–AM ant
5104	4822 156 30947	Coil–FM osc
5105	4822 157 71145	Coil–AM osc
5106	4822 157 70499	IFT–AM
5107	4822 242 81154	FM cer. filter kits
5108	4822 156 11146	IFT–AM

6101	4822 130 30621	1N4148
6102	4822 130 30621	1N4148

7101	4822 209 32746	TEA5711/N2

– MISCELLANEOUS –

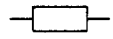
1100	4822 277 21698	Switch–slide 2P2T
1201	4822 526 10176	Ferrite bar 5x13x55

Note: Only the parts mentioned in this list are normal service parts.

CD1 BOARD

2802	4822 122 33069	33pF 5% 50V SL
2804	4822 126 13098	5,6nF 20% 16V
2805	4822 126 10053	180pF 10% Y5P
2806	5322 121 42465	68nF 5% 63V
2807	4822 122 33197	1nF 10% 50V
2811	4822 124 40248	10µF 20% 63V
2812	4822 124 40246	4,7µF 20% 63V
2815	4822 124 40239	0,47µF 20% 63V
2817	4822 124 40239	0,47µF 20% 63V
2818	4822 124 41584	100µF 20% 10V
2821	4822 121 51256	39nF 10% 50V
2825	4822 124 40239	0,47µF 20% 63V
2826	4822 121 51256	39nF 10% 50V
2831	5322 121 42465	68nF 5% 63V
2832	4822 124 40242	1µF 20% 63V
2833	4822 126 11714	4,7nF 20% 50V
2834	4822 126 11585	22nF +80–20% 25V
2836	4822 126 11714	4,7nF 20% 50V
2837	4822 124 40239	0,47µF 20% 63V
2838	4822 122 10576	1,8nF 10% 16V
2839	4822 126 12882	100nF +80–20% 50V
2840	4822 126 12882	100nF +80–20% 50V
2842	4822 124 40244	2,2µF 20% 63V
2843	4822 124 40201	1000µF 20% 16V
2851	4822 122 10459	560pF 10% 50V
2852	4822 121 41854	150nF 5% 63V
2854	4822 126 12878	1,5nF 10% 16V
2859	4822 121 42408	220nF 5% 63V
2864	4822 124 40242	1µF 20% 63V
2866	4822 122 10577	3,3nF 10% 16V
2867	4822 126 13174	33nF +80–20% 16V
2874	4822 124 40242	1µF 20% 63V
2876	4822 122 10577	3,3nF 10% 16V
2877	4822 126 13174	33nF +80–20% 16V
2883	4822 124 41997	470µF 20% 10V
2886	4822 121 51252	470nF 5% 63V
2888	4822 124 40433	47µF 20% 25V
2889	4822 124 40433	47µF 20% 25V
2890	4822 121 51252	470nF 5% 63V
2891	4822 124 40196	220µF 20% 16V
2894	4822 126 12882	100nF +80–20% 50V
2895	4822 124 40746	0,22µF 20% 63V
2896	4822 126 11585	22nF +80–20% 25V
2911	4822 126 12882	100nF +80–20% 50V

3801	4822 116 52303	Carb. film 8,2k 5%
3802	4822 116 52283	Carb. film 4,7k 5%
3803	4822 116 52303	Carb. film 8,2k 5%
3804	4822 050 11002	Carb. film 1,0k 1%
3805	4822 100 20589	Potm. trim 20K 30%
3806	4822 100 20589	Potm. trim 20K 30%
3808	4822 116 81223	Carb. film 1,2M 5%
3811	4822 116 52284	Carb. film 47k 5%
3814	4822 116 52252	Carb. film 180k 5%
3815	4822 116 52276	Carb. film 3,9k 5%
3816	4822 116 52256	Carb. film 2,2k 5%
3817	4822 116 52197	Carb. film 56R 5%
3818	4822 050 11002	Carb. film 1,0k 1%
3821	4822 116 52175	Carb. film 100R 5%
3822	4822 116 52233	Carb. film 10k 5%
3823	4822 116 52234	Carb. film 100k 5%
3824	4822 116 52296	Carb. film 6,8k 5%
3825	4822 116 52256	Carb. film 2,2k 5%
3828	4822 116 52276	Carb. film 3,9k 5%
3829	4822 050 22205	Carb. film 2,2M 1%
3830	4822 116 52257	Carb. film 22k 5%
3831	4822 116 52304	Carb. film 82k 5%
3832	4822 116 52244	Carb. film 15k 5%
3833	4822 116 52257	Carb. film 22k 5%
3834	4822 116 52234	Carb. film 100k 5%
3836	4822 116 52233	Carb. film 10k 5%
3837	4822 116 52269	Carb. film 3,3k 5%
3838	4822 100 20589	Potm. trim 20K 30%
3840	4822 116 52284	Carb. film 47k 5%
3841	4822 116 52233	Carb. film 10k 5%
3842	4822 116 52222	Carb. film 390k 5%
3843	4822 116 52233	Carb. film 10k 5%
3844	4822 116 52231	Carb. film 820R 5%
3845	4822 116 52233	Carb. film 10k 5%
3846	4822 116 52224	Carb. film 470k 5%
3847	4822 116 52257	Carb. film 22k 5%
3848	4822 116 52257	Carb. film 22k 5%
3849	4822 116 52224	Carb. film 470R 5%
3850	4822 116 52224	Carb. film 470R 5%
3852	4822 116 52228	Carb. film 680R 5%
3853	4822 116 52271	Carb. film 33k 5%
3854	4822 116 52271	Carb. film 33k 5%
3857	4822 116 52256	Carb. film 2,2k 5%
3865	4822 116 52284	Carb. film 47k 5%
3866	4822 050 11002	Carb. film 1,0k 1%



3867	4822 116 52224	Carb. film 470R 5%
3869	4822 116 52233	Carb. film 10k 5%
3875	4822 116 52284	Carb. film 47k 5%
3876	4822 050 11002	Carb. film 1,0k 1%
3877	4822 116 52224	Carb. film 470R 5%
3879	4822 116 52233	Carb. film 10k 5%
3881	4822 116 52238	Carb. film 12k 5%
3882	4822 116 52257	Carb. film 22k 5%
3883	4822 116 52233	Carb. film 10k 5%
3884	4822 116 52175	Carb. film 100R 5%
3886	4822 052 10478	Fusiable 4,7R 5%
3887	4822 050 11002	Carb. film 1,0k 1%
3891	4822 116 52244	Carb. film 15k 5%
3892	4822 116 52298	Carb. film 680k 5%
3911	4822 116 52233	Carb. film 10k 5%
3912	4822 116 52233	Carb. film 10k 5%
3913	4822 116 52233	Carb. film 10k 5%
3914	4822 116 52233	Carb. film 10k 5%
3915	4822 116 52269	Carb. film 3,3k 5%
3931	4822 050 24708	Carb. film 4,7R 1%
3932	4822 116 52207	Carb. film 1,2k 5%
3933	4822 116 52249	Carb. film 1,8k 5%
3934	4822 116 52231	Carb. film 820R 5%

6856	4822 130 30621	1N4148
6911	4822 130 34174	BZX79-C4V7

7867	4822 130 40938	TBC548
7877	4822 130 40938	TBC548
7881	4822 130 40938	TBC548
7931	4822 130 41246	BC327-25

7801	4822 209 72814	M51567P
7811	4822 209 72815	M51564P
7841	4822 209 32852	TDA7073A/N2
7842	4822 209 32852	TDA7073A/N2
7851	4822 209 62371	M50427AFP
7852	4822 209 70422	MN4264-15
7861	4822 209 32421	TDA1311A/N2
7901	4822 209 31144	TMP47C421AF

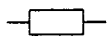
– MISCELLANEOUS –

1901	4822 130 91335	LCD LPH6197-1
1911	4822 276 13114	Switch – tact
1912	4822 276 13114	Switch – tact
1913	4822 276 13114	Switch – tact
1914	4822 276 13114	Switch – tact
1915	4822 276 13114	Switch – tact
1916	4822 276 13114	Switch – tact
1920	4822 276 13495	Switch – leaf
5851	4822 242 73557	CST8,46MTW-TF01

Note: Only the parts mentioned in this list are normal service parts.

CONTROL BOARD

2501	4822 124 41398	1µF 20% 63V
2503	4822 122 33197	1nF 10% 50V
2504	4822 124 41398	1µF 20% 63V
2506	5322 121 42465	68nF 5% 63V
2507	4822 126 12878	1,5nF 10% 16V
2511	4822 124 41398	1µF 20% 63V
2512	4822 124 41398	1µF 20% 63V
2513	4822 122 33197	1nF 10% 50V
2514	5322 121 42465	68nF 5% 63V
2515	4822 126 12878	1,5nF 10% 16V
2516	4822 124 23794	470µF 20% 16V



3501	4822 116 52244	Carb. film 15k 5%
3502	4822 116 52233	Carb. film 10k 5%
3503	4822 116 52269	Carb. film 3,3k 5%
3504	4822 116 52263	Carb. film 2,7k 5%
3505	4822 116 52276	Carb. film 3.9k 5%
3507	4822 116 52269	Carb. film 3,3k 5%
3508	4822 116 52269	Carb. film 3,3k 5%
3509	4822 102 10447	Potm – rotary 50kBx2
3510	4822 116 52215	Carb. film 220R 5%
3514	4822 116 52269	Carb. film 3,3k 5%
3515	4822 116 52276	Carb. film 3.9k 5%
3516	4822 116 52233	Carb. film 10k 5%
3517	4822 116 52263	Carb. film 2,7k 5%
3518	4822 116 52244	Carb. film 15k 5%
3519	4822 116 52269	Carb. film 3,3k 5%
3520	4822 116 52269	Carb. film 3,3k 5%
3521	4822 116 83863	Carb. film 1k 5%
3522	4822 116 83863	Carb. film 1k 5%
3531	4822 116 83863	Carb. film 1k 5%
3532	4822 116 83863	Carb. film 1k 5%
3533	4822 116 52276	Carb. film 3.9k 5%
3534	4822 116 52235	Carb. film 1M 5%
3535	4822 116 52235	Carb. film 1M 5%

7501	4822 130 44196	BC548C
7502	4822 130 44196	BC548C

– MISCELLANEOUS –

1504	4822 276 12648	Switch – push
1505	4822 276 12648	Switch – push
1515	4822 277 21285	Switch – slide

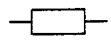
Note: Only the parts mentioned in this list are normal service parts.

COMBI BOARD

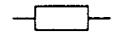
2250	4822 124 41398	1µF 20% 63V
2251	4822 124 41398	1µF 20% 63V
2252	4822 124 40433	47µF 20% 25V
2253	4822 124 40433	47µF 20% 25V
2254	4822 122 31835	1,8nF 10% 50V
2255	4822 122 31835	1,8nF 10% 50V
2256	4822 124 41973	100µF 20% 16V
2257	4822 124 41973	100µF 20% 16V
2258	5322 121 42661	330nF 5% 63V
2259	5322 121 42661	330nF 5% 63V
2260	4822 124 40184	1000µF 20% 10V
2261	4822 124 40184	1000µF 20% 10V
2262	4822 124 42119	4700µF 20% 25V
2263	4822 124 40181	220µF 20% 10V
2272	4822 126 11585	22nF +80–20% 25V
2273	4822 126 11585	22nF +80–20% 25V
2274	4822 126 11585	22nF +80–20% 25V
2275	4822 126 11585	22nF +80–20% 25V
2276	5322 121 42386	100nF 5% 63V
2700	4822 126 12878	1,5nF 10% 16V
2701	4822 126 12878	1,5nF 10% 16V
2702	4822 124 40433	47µF 20% 25V
2703	4822 124 40433	47µF 20% 25V
2704	5322 122 32311	470pF 10% 100V
2705	5322 122 32311	470pF 10% 100V
2706	4822 121 51305	15nF 10% 50V
2707	4822 122 33195	100pF 10% 50V
2708	4822 122 33195	100pF 10% 50V
2709	5322 124 41431	22µF 20% 35V
2710	5322 124 41431	22µF 20% 35V
2711	4822 124 40196	220µF 20% 16V
2712	5322 124 41431	22µF 20% 35V
2713	4822 126 11585	22nF +80–20% 25V
2714	4822 126 11585	22nF +80–20% 25V
2715	4822 124 41398	1µF 20% 63V
2716	4822 124 41398	1µF 20% 63V
2717	4822 124 40433	47µF 20% 25V
2718	4822 124 40433	47µF 20% 25V
2719	4822 126 12878	1,5nF 10% 16V
2720	4822 126 12878	1,5nF 10% 16V
2721	5322 122 32311	470pF 10% 100V
2722	5322 122 32311	470pF 10% 100V
2723	5322 124 41431	22µF 20% 35V
2724	4822 124 40196	220µF 20% 16V
2725	4822 122 33195	100pF 10% 50V

2726	4822 122 33195	100pF 10% 50V
2727	4822 126 11585	22nF +80–20% 25V
2728	4822 126 11585	22nF +80–20% 25V
2729	5322 124 41431	22µF 20% 35V
2730	5322 124 41431	22µF 20% 35V
2731	4822 126 12339	2,2nF 10% Y5R
2732	4822 126 12339	2,2nF 10% Y5R
2733	4822 122 33195	100pF 10% 50V
2734	4822 122 33195	100pF 10% 50V
2735	4822 126 12148	2,7nF 10% 50V
2736	4822 126 12148	2,7nF 10% 50V
2737	4822 121 51305	15nF 10% 50V
2738	4822 121 51305	15nF 10% 50V
2739	4822 124 41402	10µF 20% 50V
2740	4822 124 41402	10µF 20% 50V
2741	4822 124 41398	1µF 20% 63V
2742	4822 122 33197	1nF 10% 50V
2743	4822 124 40433	47µF 20% 25V
2744	4822 121 51379	82nF 5% 63V
2745	4822 124 41973	100µF 20% 16V
2746	4822 124 23794	470µF 20% 16V
2747	4822 124 23794	470µF 20% 16V
2748	4822 124 23794	470µF 20% 16V
2749	4822 124 40239	0,47µF 20% 63V
2750	4822 124 40239	0,47µF 20% 63V
2751	4822 124 41398	1µF 20% 63V
2752	4822 121 51305	15nF 10% 50V
2753	4822 124 40433	47µF 20% 25V
2754	4822 121 43145	33nF 10% 50V
2756	4822 124 41398	1µF 20% 63V
2762	4822 122 33197	1nF 10% 50V
2763	4822 121 51387	10nF 20% 16V
2764	4822 124 41973	100µF 20% 16V
2765	4822 126 11714	4,7nF 20%
2766	4822 126 11585	22nF +80–20% 25V
2767	4822 121 51387	10nF 20% 16V
2768	4822 126 11585	22nF +80–20% 25V
2769	4822 121 51387	10nF 20% 16V
2770	4822 126 11585	22nF +80–20% 25V

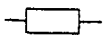
COMBI BOARD



3250	4822 116 52224	Carb. film 470R 5%
3251	4822 116 52224	Carb. film 470R 5%
3252	4822 116 52206	Carb. film 120R 5%
3253	4822 116 52206	Carb. film 120R 5%
3254	4822 116 52211	Carb. film 150R 5%
3255	4822 116 52211	Carb. film 150R 5%
3700	4822 116 52175	Carb. film 100R 5%
3701	4822 116 52175	Carb. film 100R 5%
3702	4822 116 52224	Carb. film 470R 5%
3703	4822 116 52224	Carb. film 470R 5%
3704	4822 116 52215	Carb. film 220R 5%
3705	4822 116 52215	Carb. film 220R 5%
3706	4822 116 52245	Carb. film 150k 5%
3707	4822 116 52245	Carb. film 150k 5%
3708	4822 116 52269	Carb. film 3,3k 5%
3709	4822 116 52269	Carb. film 3,3k 5%
3710	4822 116 52289	Carb. film 5,6k 5%
3711	4822 116 52289	Carb. film 5,6k 5%
3712	4822 116 52249	Carb. film 1,8k 5%
3713	4822 116 52269	Carb. film 3,3k 5%
3714	4822 116 52175	Carb. film 100R 5%
3715	4822 116 52257	Carb. film 22k 5%
3716	4822 116 52244	Carb. film 15k 5%
3717	4822 116 52244	Carb. film 15k 5%
3718	4822 116 52175	Carb. film 100R 5%
3719	4822 116 52175	Carb. film 100R 5%
3720	4822 116 52233	Carb. film 10k 5%
3721	4822 116 52233	Carb. film 10k 5%
3724	4822 116 52233	Carb. film 10k 5%
3725	4822 116 52233	Carb. film 10k 5%
3726	4822 116 52224	Carb. film 470R 5%
3727	4822 116 52224	Carb. film 470R 5%
3728	4822 116 52215	Carb. film 220R 5%
3729	4822 116 52215	Carb. film 220R 5%
3730	4822 116 52245	Carb. film 150k 5%
3731	4822 116 52245	Carb. film 150k 5%
3732	4822 116 52233	Carb. film 10k 5%
3733	4822 116 52233	Carb. film 10k 5%
3734	4822 116 52233	Carb. film 10k 5%
3735	4822 116 52233	Carb. film 10k 5%
3736	4822 116 52233	Carb. film 10k 5%
3737	4822 116 52233	Carb. film 10k 5%
3738	4822 116 52303	Carb. film 8,2k 5%
3739	4822 116 52303	Carb. film 8,2k 5%
3740	4822 116 52175	Carb. film 100R 5%



3741	4822 111 30893	Carb. film 4,7M 5%
3742	⚠ 4822 052 10478	Fusiable 4.7R 5%
3743	4822 116 52211	Carb. film 150R 5%
3744	4822 116 52234	Carb. film 100k 5%
3745	4822 116 52186	Carb. film 22R 5%
3746	4822 116 52251	Carb. film 18k 5%
3747	4822 116 52263	Carb. film 2,7k 5%
3748	4822 116 52239	Carb. film 120k 5%
3749	4822 116 52233	Carb. film 10k 5%
3750	4822 116 52233	Carb. film 10k 5%
3751	4822 116 83863	Carb. film 1k 5%
3752	4822 116 52285	Carb. film 470k 5%
3754	4822 116 52233	Carb. film 10k 5%
3755	4822 116 52297	Carb. film 68k 5%
3756	4822 116 52224	Carb. film 470R 5%
3759		not used
3760	4822 116 52215	Carb. film 220R 5%
3761	4822 116 52233	Carb. film 10k 5%
3762	4822 116 52234	Carb. film 100k 5%
3763	4822 116 52269	Carb. film 3,3k 5%
3764	4822 116 83863	Carb. film 1k 5%
3765	4822 116 52234	Carb. film 100k 5%
3766	4822 116 52226	Carb. film 560R 5%
3767	4822 116 52257	Carb. film 22k 5%
3769	4822 116 83863	Carb. film 1k 5%
3770	4822 116 52283	Carb. film 4,7k 5%
3771	4822 116 52245	Carb. film 150k 5%
3772	4822 116 52234	Carb. film 100k 5%
3773	4822 116 52235	Carb. film 1M 5%
3774	4822 116 52233	Carb. film 10k 5%
3775	4822 116 52235	Carb. film 1M 5%
3781	4822 116 52233	Carb. film 10k 5%
3782	4822 116 52233	Carb. film 10k 5%
3783	4822 116 52233	Carb. film 10k 5%
3787	4822 116 52283	Carb. film 4,7k 5%
3788	4822 116 52245	Carb. film 150k 5%
3789	4822 116 83863	Carb. film 1k 5%
3790	4822 116 83863	Carb. film 1k 5%
3793	4822 116 52256	Carb. film 2,2k 5%
3794	4822 116 52256	Carb. film 2,2k 5%
3797	4822 100 20165	Potm. trim 500R
3799	4822 116 52284	Carb. film 47k 5%
3800	4822 116 52284	Carb. film 47k 5%
3801	4822 116 52176	Carb. film 10R 5%
3802	4822 116 52276	Carb. film 3,9k 5%



3803	4822 116 52182	Carb. film 15R 5%
3806	4822 116 83863	Carb. film 1k 5%
3807	4822 116 83863	Carb. film 1k 5%
3808	4822 116 52249	Carb. film 1,8k 5%
3809	4822 116 52269	Carb. film 3,3k 5%
3810	4822 116 52269	Carb. film 3,3k 5%
3811	4822 116 52269	Carb. film 3,3k 5%
3814	4822 116 52235	Carb. film 1M 5%
3815	4822 116 81682	Carb. film 2,2M 5%
3816	4822 111 30893	Carb. film 4,7M 5%
3819	4822 116 52226	Carb. film 560R 5%
3820	4822 116 52226	Carb. film 560R 5%
3821	4822 116 52257	Carb. film 22k 5%
3822	4822 116 52285	Carb. film 470k 5%

6252	5322 130 30684	1N4002
6253	5322 130 30684	1N4002
6254	5322 130 30684	1N4002
6255	5322 130 30684	1N4002
6702	4822 130 30621	1N4148
6703	4822 130 34174	BZX79-C4V7
6704		Not used
6705		Not used
6706		Not used
6707	4822 130 34174	BZX79-C4V7
6709	4822 130 30621	1N4148
6710	4822 130 30621	1N4148
6711	4822 130 30621	1N4148
6712	4822 130 30621	1N4148
6713	4822 130 30621	1N4148
6714	4822 130 30621	1N4148
6715	4822 130 30621	1N4148
6717	4822 130 30621	1N4148
6719	4822 130 30621	1N4148
6720	4822 130 30621	1N4148
6724	4822 130 30621	1N4148
6725	4822 130 30621	1N4148
6726	4822 130 30621	1N4148
6727	4822 130 30621	1N4148

7250	4822 209 31544	TA8227P
7702	4822 209 32918	AN7318S
7703	4822 209 32918	AN7318S
7716	4822 209 32919	HEF4952BT

7700	4822 130 44196	BC548C
7701	4822 130 44196	BC548C
7704	4822 130 40937	BC548B
7705	4822 130 40937	BC548B
7707	4822 130 44196	BC548C
7709	4822 130 44196	BC548C
7710	4822 130 40824	BD140
7711	4822 130 44196	BC548C
7712	4822 130 62388	2SA1160B
7713	4822 130 40937	BC548B
7714	4822 130 40941	BC558
7715	4822 130 40937	BC548B
7717	4822 130 40941	BC558
7718	4822 130 40941	BC558

– MISCELLANEOUS –

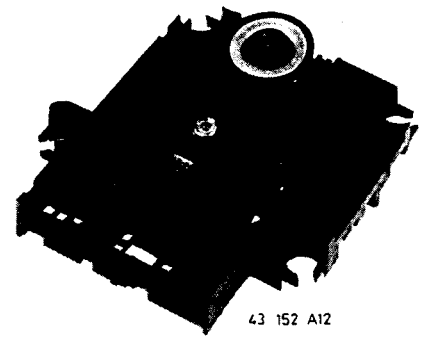
1251 [1]	⚠ 4822 070 32002	Fuse 2A
1251 [2]	⚠ 5322 253 30116	Fuse 2A
1252	4822 267 31468	Socket – headphone
1258 [1]	⚠ 4822 265 30986	Socket – mains
1258 [2]	⚠ 4822 265 20287	Socket – mains
1260 [3]	⚠ 4822 272 10366	Voltage selector
1710	4822 277 20594	Switch – push
1711	4822 267 30938	Socket – mic
5770	4822 156 20946	Coil – bias osc
5773 [3]	4822 157 70003	Coil – choke
5001	4822 240 40206	Loudspeaker 4 ohm
5002	4822 240 40206	Loudspeaker 4 ohm
5003	⚠ 4822 146 31342	Transf. mains

[1] not for –/17
[2] for –/17 only
[3] for –/01 only

Note: Only the parts mentioned in this list are normal service parts.

Compact Disc Drive RCD 1.2D

Service
Service
Service



Service Manual

COMPACT disc DIGITAL AUDIO

TABLE OF CONTENTS

Exchange instruction for optical pickup unit
Partslist
Service hints
Cleaning the lens

CLASS 1
LASER PRODUCT

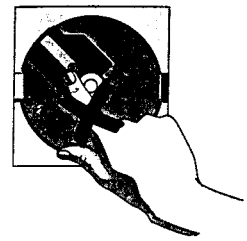
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

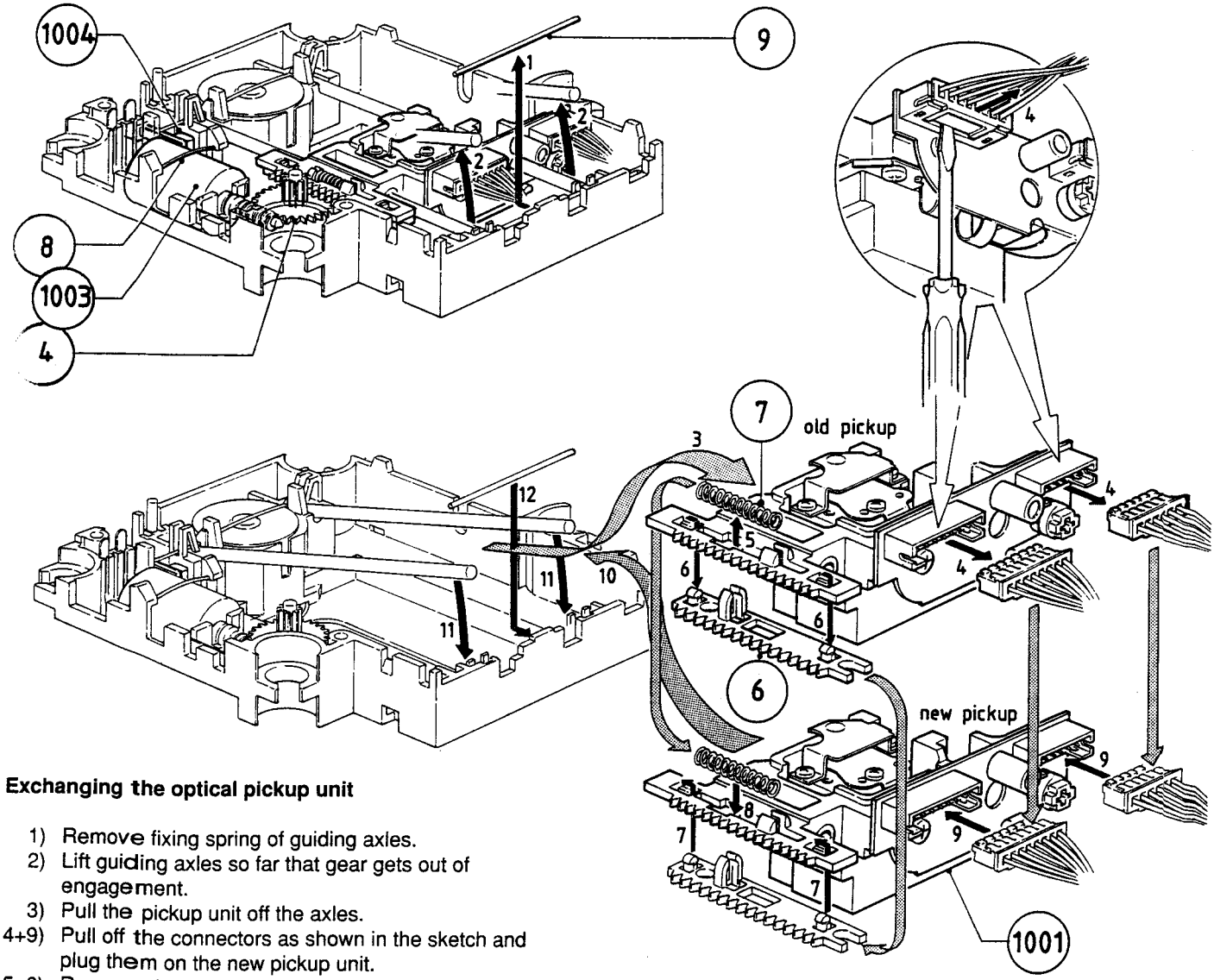
Published by Consumer Electronics Printed in The Netherlands Copyright reserved Subject to modification

Exchange instruction for the OPTICAL PICKUP unit

WARNINGS: Danger of electrostatic discharge!
The laser diode is more sensitive to ESD than MOS ICs.
Therefore take care of ESD-protection whenever working on the disc drive.

Never touch the lens!





Exchanging the optical pickup unit

1) Remove fixing spring of guiding axles.
2) Lift guiding axles so far that gear gets out of engagement.
3) Pull the pickup unit off the axles.
4+9) Pull off the connectors as shown in the sketch and plug them on the new pickup unit.
5+6) Remove the toothed bar plus compression spring.
7+8) Mount toothed bar and compression spring on new pickup unit.
10) Put the new pickup unit on the guiding axles.
11) Put guiding axles down to the chassis while positioning the pickup unit so that gear is forced easily into engagement.
12) Mount fixing spring of guiding axles.

IMPORTANT NOTE:
All electrical adjustments have to be carried out new.
Follow the adjustment table of the service manual for the relevant set the disc drive is used.
The laser control is located on the optical pickup unit.
The laser current has therefore already been adjusted by the factory.

	4822 691 20768	RCD1.2D disc drive assy
4	4822 522 32451	gear wheel
6	4822 522 32453	toothed bar
7	4822 492 51979	spring, compression
8	4822 492 63941	spring, wire (motor)
9	4822 492 63942	spring, wire (axles)
1001	4822 691 30327	optical pickup unit
1003	4822 361 21113	servomotor, RF300C-11440
1004	4822 276 12163	switch, leaf

Only those parts of which a service code number is stated are service parts.

SERVICE HINTS

Service DISC - HOLDDOWN

The disc must always be fixed well on the turntable.
If the mechanism has to be dismounted for repair, a separate disc-holddown has to be used (e.g. service disc-holddown 4822 532 51871).
The CD mechanism then can function normally as in the set.

REDUCTION of REPAIR PRICE

If the disc drive does not function, in most cases the optical pickup unit will be defect.
To reduce the actual repair price it is recommended to replace the optical pickup unit only.
Follow the exchange instruction on the previous page.

CHARACTERISTIC FAILURES

Possible customer complaint:
- *no function, does not startup*
- *plays badly*
- *skips tracks*
- *very sensitive to shocks*

General observation by investigation:

HF- signal too small.

Cause: Mechanical x/y-adjustment of the diode array on the optical pickup unit has drifted.

Attention: The laser control of the RCD1.2 disc drive is located on the optical pickup unit. The laser current has been adjusted in the production line and is **not** intended to be **varied for service purposes.**

If the HF - signal is considerably smaller than 800mV$_{pp}$, check as follows:

* Play a disc.

* Turn the *FOCUS OFFSET* potmeter while observing the HF - signal:

  – *THE HF - SIGNAL DECREASES IN BOTH DIRECTIONS*
  → the x/y-adjustment of the diode array is o.k.

  – *THE HF - SIGNAL INCREASES IN ONE DIRECTION*
  → adjust to max. HF signal level and check

  FOCUS OFFSET voltage:

  ≤ ±100mV DC → x/y-adjustment of diode array within tolerance.

  > ±100mV DC → x/y-adjustment of diode array has drifted and is out of tolerance.
  → **exchange optical pickup unit!**

In case of a positive result – x/y-adjustment of diode array is o.k. – the reason for a too small HF signal might be a dying laser diode or any other fault in the electronic circuit.

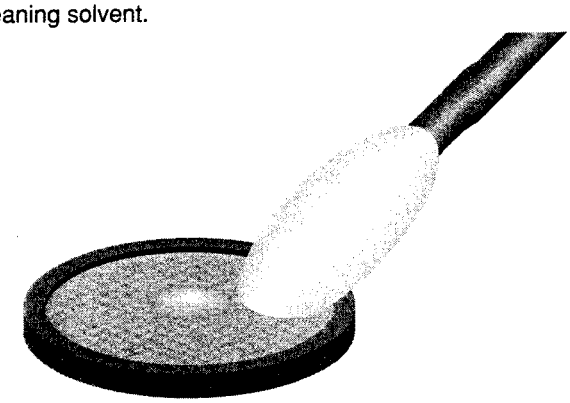
CLEANING the LENSE

Principle: Avoid cleaning of the lens !

DUST particles are normally no major problem. They can be blown away with oilfree compressed air.

Finger - prints

If the lens is obviously polluted with finger - prints, it can be cleaned with alcohol or spirit.
Take a padstick and tip it into alcohol until it is soaked.
Then clean the surface of the lens by rotating the soaked padstick smoothly.
The alcohol will dissolve the finger - prints, rotation helps mechanically. Finally the lens will be filled with the dirty cleaning solvent.



Now incline the lens (disc drive) and soak the solvent up with absorbent paper.
The remnants of the solvent will evaporate.